

THE BIG 3 LIFTS THAT WILL TRANSFORM YOUR BODY

PALEOFITNESS

Maximize Your Performance

MAR/APR
2016

DEVELOP A BEAST
PHYSIQUE WITH
**ANIMAL
FLOW**

Why YOU
need to
YOGA!

Product
Reviews
Recipes
& More!

PROTEIN
MYTHS
DEBUNKED

1 YEAR ANNIVERSARY
ISSUE!

Carrot Cake Recovery SHAKE



Deviled Eggs with Crispy Capers



Lamb Meatballs with Pistachio- Mint Pistou

Savory Twice-Baked Sweet Potatoes



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PaleoFitnessMag.com

PO Box 1620 / Bend, OR 97709
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Mar / Apr 2016 | Volume 2, Issue 2

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Jennifer Vogelgesang Blake's

leggings might be pink, but her weights aren't. Author of *Unapologetically Powerful: A Guide to Growing Your Squat, Bench, and Deadlift*, and personal trainer at The Movement Minneapolis, she is a powerlifting coach and competitor with a passion for helping her clients discover and grow their strength, inside and out. She's here to spread the good word that strong is empowering, and because of that, really, really fun.



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Ilan Starr

is the owner and operator of Balance Athletics, which opened in 2008 as one of the very first functional fitness facilities in the southwest Denver area. Ilan is passionate about helping people reclaim their health and physical potential. His client focus ranges from wellness and longevity to serious training prescriptions for athletic performance. Ilan is a lifelong learner and strives to deliver only the highest caliber of coaching and individual programs to his clients. He holds certifications with CrossFit, USAW and OPEX.

A Year of PALEOFITNESS



his issue, our sixth, marks one full year of *Paleo Fitness*, and, as anniversaries tend to do, thinking about this fact prompted some reflection.

Over the past 12 months, we've featured articles from some of the most influential voices in the Paleo community, discussing fitness-focused subjects like nutrition, body image and unconventional training. Admittedly, this is something that I had anticipated; this publication is titled *Paleo Fitness*, after all, but what I didn't expect was the contributions we received from authors outside of the Paleosphere: influential movement coaches, researchers and athletes who don't self-identify as Paleo, but whose voices we wanted to feature nonetheless.

This realization struck me as significant, and here's why: When I first began working on *Paleo Fitness*, I thought that we would be focusing on a narrow slice of the Paleo lifestyle—a small piece of the pie, in other words. I imagined that our articles would highlight the importance of exercise and performance-based nutrition within an ancestral health paradigm, and at first, many of them did. But then something interesting started to occur. Instead of the laser-like focus I'd originally conceived, we began to expand our scope to include broader concepts like mindset and mastery. Simultaneously, we experimented with features that would, at first glance, seem more at home in a strength and conditioning journal or a bodybuilding publication. Putting all of this together, I now see that instead

of delivering content focused on a small piece of the proverbial Paleo pie, we've inadvertently cooked up something bigger.

Here at *Paleo Fitness*, we're putting the "human" back into "human performance"—and this isn't just performance in the gym. It's performance at work, at home and anywhere else you might be. Our contributors are diverse; if someone has something valuable to say, something that provides useful tools, insights or information to our readers, we're going to feature them. Our product reviews are unexpected; if a supplement, device or technology can empower or improve our lives, we're going to check it out. And, unlike just about every other fitness publication out there, our intentions are true. We only feature information that we, as fellow human beings, can feel good about. No manipulative tactics, unrealistic images or sleazy sales techniques.



Tony Federico

Paleo Fitness Editor
BS, APK, ACSM, EP-C, CFL1



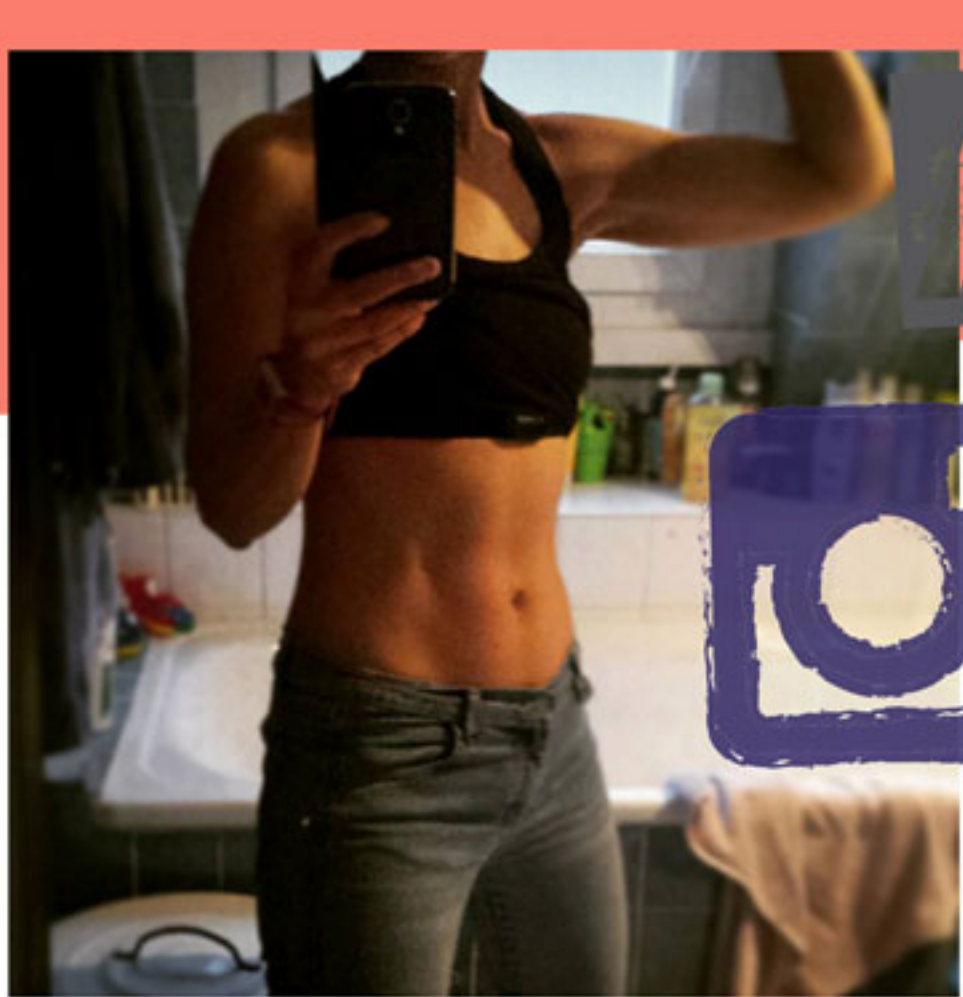
@TonyFedFitness

Paleo Fitness Editor Tony Federico is a certified exercise physiologist with the American College of Sports Medicine who, for the past 10 years, has helped hundreds of people reach their fitness goals. He is a regular contributor to *Paleo Magazine*, hosts the *Paleo Magazine Radio Podcast* and is the Director of *Fitness & Aquatics* at the Deerwood Country Club in Jacksonville, Florida, where he lives with his wife, Jamie.

I hope you've enjoyed this past year of *Paleo Fitness*, and I encourage you to stick around.

We're just getting warmed up!





#PALEO FITNESSARMY



FLEXIBILITY TIPS FROM A YOGA PRO



THE TOP 5 PROTEIN MYTHS



CREATING SUCCESS AND LONGEVITY IN FUNCTIONAL GROUP FITNESS



TRAIN LIKE A BEAST: ANIMAL FLOW 101



The Art and Science of Exercise
Progression: An Interview with

**JAMES
FITZGERALD**



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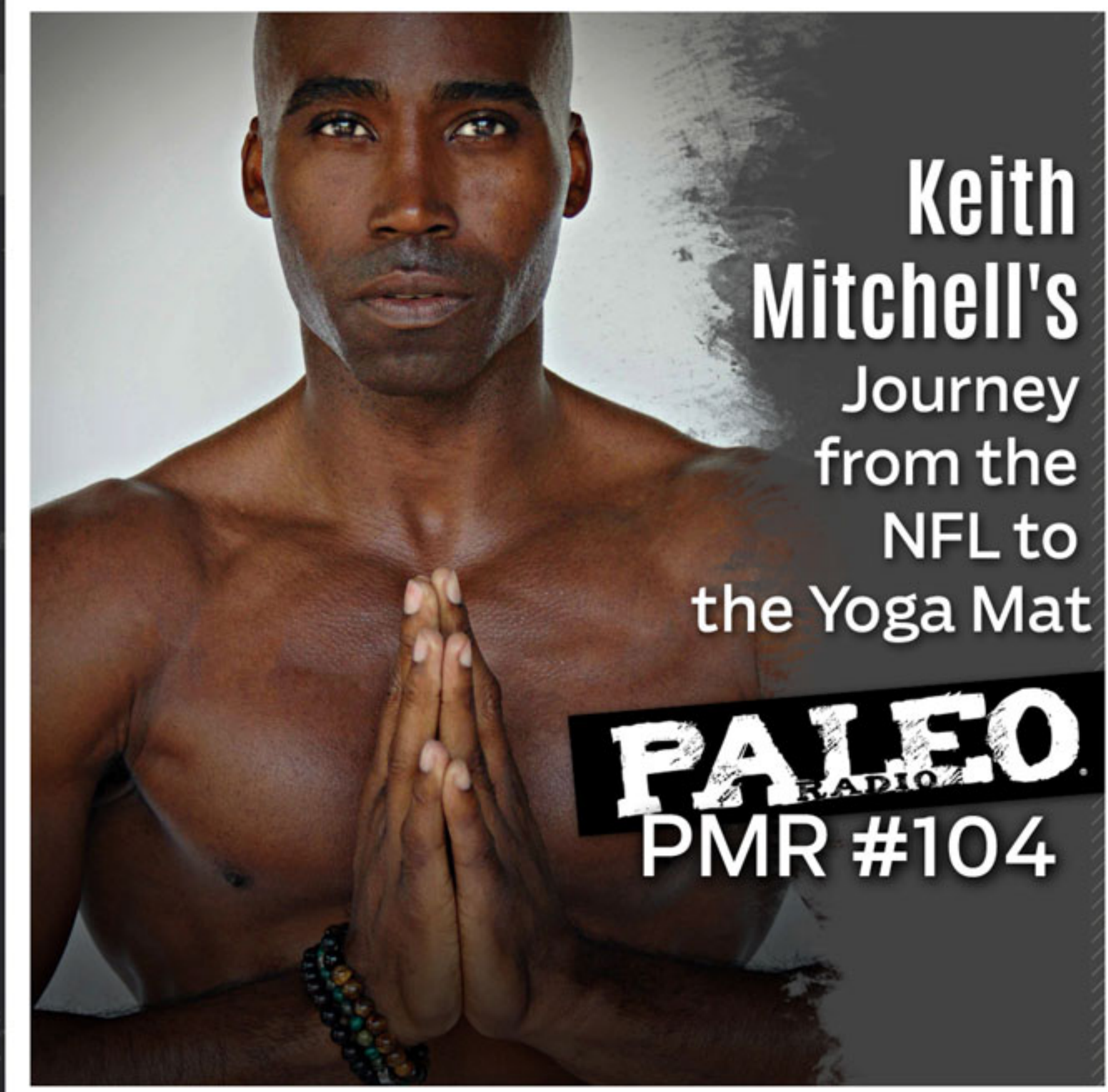
#PALEO FITNESS ARMY

Want to join the Paleo Fitness Army? Share your pictures on Instagram or Twitter with the hashtag **#paleofitnessarmy** for the chance to be featured in our next issue!



HIIT training has **@sarahbernspaleo** looking fierce!

Don't forget to follow us on Instagram **@paleofitnessmag**! We share content from all our @paleomagazine resources, like this Paleo Magazine Radio podcast with People Magazine's "Sexiest Yoga Instructor Alive" Keith Mitchell!



Keith Mitchell's
Journey from the NFL to the Yoga Mat

PALEO
PMR #104



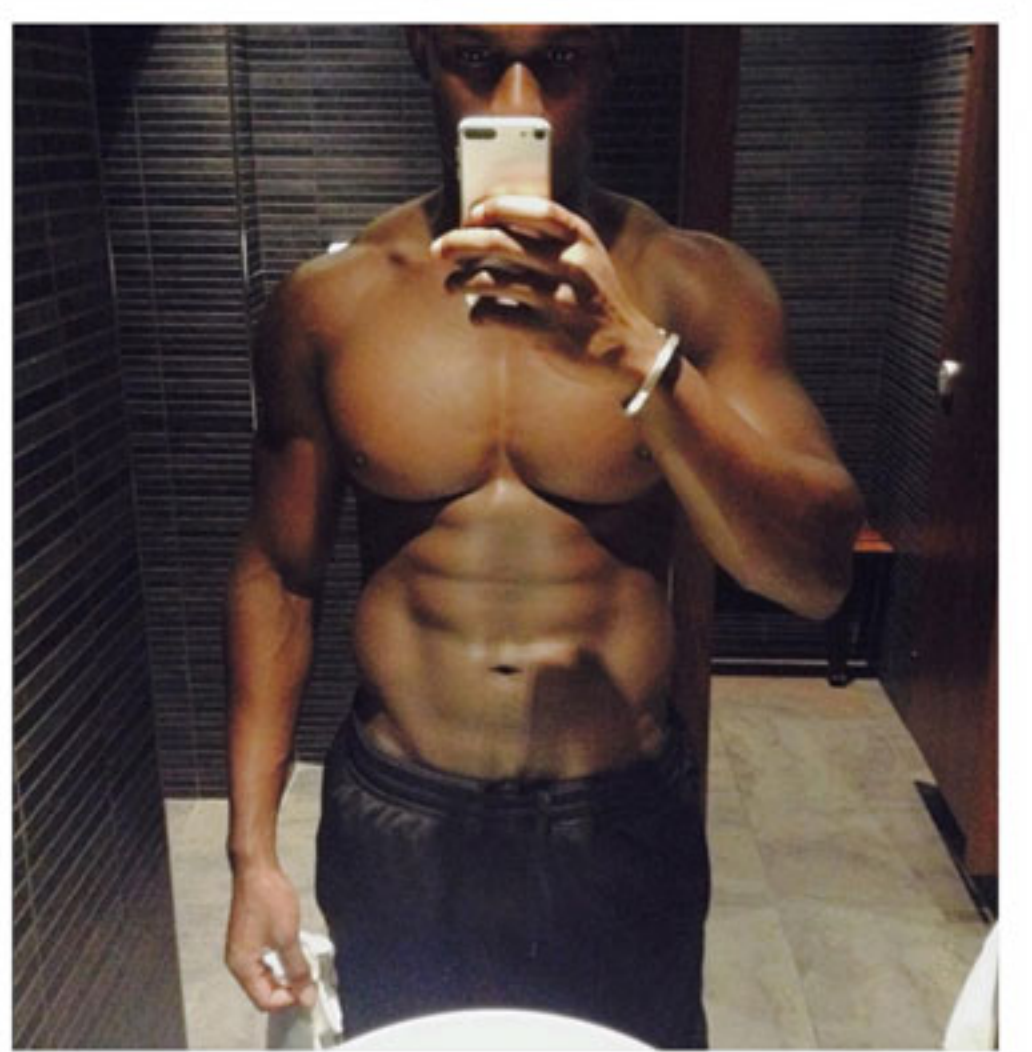
We think you're doing a good job too **@carine_Inx**!

Paleo Fitness Editor Tony Federico got some new toys for Christmas and was happy to share them with his nephew Rustin! **@tonyfedfitness**

Ancestral Health principles seem to be working pretty well for **@graceandsweat**!



Pistol squats in the snow? Why not? **@primalrevolutions**



A full-page photograph of three people in a gym. In the foreground, a man in a black tank top and dark shorts holds a barbell with both hands. Behind him, a woman in a blue sports bra and red shorts also holds a barbell. To the left, another man in a blue tank top and grey shorts holds a barbell. They are all looking towards the camera. The gym has a red and white striped wall and a rack of barbells in the background. A stack of weight plates is on the floor to the right.

CREATING SUCCESS AND LONGEVITY

IN FUNCTIONAL GROUP FITNESS

➤ BY IAN STARR

BALANCE
ATHLETICS
CLIENT
PRACTICING
OLYMPIC
LIFTS



A COMMON PROBLEM IN GROUP EXERCISE (especially “functional” group exercise) is the flow-through, or turnover, of clients. There are a few key reasons for this, but two that we might open with are the concepts of undertraining and overtraining—that is, not training frequently enough and/or inconsistently, or training too much and/or too intensely.

IF YOUR PRIMARY FORM OF EXERCISE IS IN SOLITUDE, SELF-DIRECTED AND OF A CYCLICAL NATURE, SUCH AS JOGGING, WALKING OR BIKING, INFREQUENT TRAINING IS ESSENTIALLY A NON-ISSUE. People in this situation tend to self-regulate accordingly, and the consequences of a 30-minute treadmill session at 70 percent effort after a long layoff are generally minimal. When we do see overtraining take its toll in these same modalities, it’s most often a problem with “chronic cardio” hobbyists or endurance athletes who might benefit from a less-is-more approach to their regimen.

But when we complicate our training by adding complexity, skill and intensity, as happens in a functional fitness group class, everything changes. This is more unfamiliar territory for would-be beneficiaries, and consequently it can be much more challenging to find balance and sustainability with this kind of training.

It’s important to understand that real strength and conditioning require a significant amount of education, training, focus, and intelligent application and ➤➤➤

**FUNCTIONAL GROUP
EXERCISE OFTEN FEATURES
A HIGH-INTENSITY MIX
OF OLYMPIC LIFTING,
GYMNASTICS, STRONGMAN
MOVEMENTS, POWERLIFTING
AND CALISTHENICS.**



Signs of overtraining include: **elevated resting heart rate** **persistently high heart rate after adequate rest** **reduced heart rate variability** **increased susceptibility to infections** **increased incidence of injuries**

modification over time to produce a sustainable practice. Unfortunately, this kind of training is often marketed and applied as if it's a spin class. It's not a spin class! Not even close. And if you treat it as such, you will not do well. Underdoing it and overdoing it are both problematic, and finding the "sweet spot" is tough.

YOU CAN'T TRAIN "WHENEVER" AND DO "WHATEVER," AS THIS SCENARIO WILL EVENTUALLY FAIL YOU, AND YOU WILL MOST LIKELY QUIT. This is a real shame, considering the myriad benefits strength and conditioning training can provide.

In support of the many who have already been through the wash cycle of group functional fitness and spit out the other end, there are inherent issues within the industry in terms of what's being sold and how clients are being trained. People who start off with a sincere desire to succeed are not getting what they need. I would like to formally apologize for all the times over the years when we have failed clients for said reasons, and for the rest of the industry at large. In all honesty, it is truly rife with a shitty, antiquated delivery/product, which is why it's so important to find a good facility and coach, and a range of product offerings. Then, once you've found the right combination of those variables, you can apply yourself at a level that's appropriate for the kind of activity you have undertaken and that's based on your personal needs. >>>➔

**ONE THING
THAT YOU
DEVELOP BY
TRAINING
CONSISTENTLY,
WEEK AFTER
WEEK, IS
RESILIENCE.**

Lots of folks start at our facility with a twice-a-week membership for our group offering. I think that's fine, and it allows them to "test the waters." However, we encourage clients to move to three times a week once they have enjoyed consistent training for two to three months. It's been our experience that that's really the maximum return on investment for most people. Four to five times a week can work well, too, depending on the person. Of course, whatever your level of attendance, you *must* be consistent. YOU CANNOT DO THIS KIND OF TRAINING SPORADICALLY, OCCASIONALLY, INCONSISTENTLY, ONCE A WEEK, ETC., FOR ANY EXTENDED LENGTH OF TIME. IT JUST DOESN'T WORK. AND THIS IS EXACTLY WHERE A LOT OF CLIENTS MISS THE BOAT.

One thing that you develop by training at least three times a week, consistently, is resilience. You're allowing yourself to build strength in all senses of the word as it applies to your mind, body and training. This is crucial for success. This is what will give you a chance to experience the kinds of changes you were hoping for when you signed up.

Often, when clients are inconsistent and sporadic, training can take such a toll physically and psychologically (even *with* informed and well-applied guidance) that it essentially produces a "negative" effect and makes it a little less likely that the client will return. So, they then wait a little longer to return. And then they "give it one more try" only to have the same experience, or worse. It's actually the exact opposite effect that all parties are hoping for. People are getting broken down doing this, rather than built up. It's totally bass-ackwards.

The propensity for injury can also be higher for clients who are training inconsistently and/or infrequently. It can be the perfect combination of feelings of guilt and a need to "push" when they actually do come to >>>>



listen change

**LISTEN TO
YOUR BODY.
COMMUNICATE
WITH YOUR COACH
TO KNOW WHEN
IT'S NECESSARY TO
MAKE CHANGES TO
YOUR HABITS AND
TRAINING.**

BALANCE
ATHLETICS
CLIENTS
PERFORMING
A KETTLEBELL
LUNGE (TOP) AND A
KETTLEBELL SUMO
DEADLIFT HIGH
PULL (BOTTOM).





class, combined with relative inexperience and general weakness in their strength, technique and capacity. Not a good scenario!

Conversely, if you're the gung-ho, "more must be better" type—if you're able and competitive—it will be just as essential for you to create a strong foundation as it is for someone who trains less, as you'll need that foundation to support the volume and intensity of work you'll be doing. It will also be wise for you to learn the value of recovery time and rest days early on, as well as the concept of the "dose response"—i.e., more is not always more.

"Going 100 percent" every time you train is another mistake many enthusiastic trainees make. Not only is it physically impossible, but if you want to establish consistency and longevity, you need to modulate volume, load and intensity from day to day depending on what's going on in your life, how you feel and your existing physical issues. Make sure you have a coach (and facility) who understands this and can handle the task of intelligently creating this kind of variability, even in a group setting. At some point, your training needs may evolve past cookie-cutter workouts. Getting the training *you* need, in the proper dose, may necessitate custom programming.

Food and lifestyle will be crucial for both the casual participant and the five-day-a-weeker. Nutrition and other lifestyle factors support *everything* you do in the gym. If you don't sleep enough, are eating too little protein or are eating too many inflammatory foods, your body won't be able to provide you with the results you're trying to achieve in the gym. Furthermore, THE WORK YOU DO WHEN YOU GO TO THE GYM SHOULD BE BUILDING YOU UP, NOT BREAKING YOU DOWN. IF YOU'RE GETTING BROKEN DOWN, THIS CAN ACCENTUATE BOTH UNDER- AND OVERTRAINING AND INCREASE THE LIKELIHOOD OF INJURY, BOTH ACUTE AND CHRONIC.

Lastly, make sure you listen to your body. You know that going all out when you haven't trained in two weeks isn't a good idea, and you also know when you are beat to hell because you've been pushing hard six days in a row. Make the necessary changes by communicating with your coach and changing your habits and training when necessary. >>>→

Alright—a quick recap, and additional thoughts:

1

DON'T THINK THAT
FUNCTIONAL STRENGTH AND
CONDITIONING IS ANYTHING
LIKE OTHER GROUP EXERCISE.
IT'S NOT. IF YOU CAN'T
DEDICATE THE TIME, ENERGY
AND BRAINPOWER, SKIP IT
UNTIL YOU'RE READY!

three

SET YOUR TRAINING DAYS AND TIMES LIKE CLOCKWORK: "I TRAIN TUESDAY AND THURSDAY AT 6 P.M. EVERY WEEK." Make it a hard appointment in your calendar. You know, like a work meeting. After all, your mind/body is the vehicle by which you are granted another day of existence. Doesn't it deserve to be a priority? Be consistent.

If you start with twice a week for two to three months, that's great. Then, if you're enjoying the training and are attending consistently, think seriously about moving to three times a week. If you have more serious aspirations, train up to five times a week, but still allow yourself time to build up to that, and insert rest days accordingly.

2

Find a facility that has been in business for more than a year or two. With the explosion of CrossFit and functional fitness, gyms are opening and closing all the time. They are not all the same, and you want to find a facility and coaches that have had years of experience to learn, make mistakes and refine their delivery. >>>They should offer a one-on-one consult up front, and at least 10 hours of one-on-one or small-group training before going on to a larger or more advanced group setting. You will not be set up to succeed or establish consistency by just "jumping in" or after just a few hours of attention.

4



HAVE YOUR COACH HELP YOU THOUGHTFULLY ALIGN YOUR GOALS, EXPECTATIONS AND LIFE SITUATION WITH THE FREQUENCY AND DESIGN OF YOUR TRAINING. IT'S IMPORTANT TO UNDERSTAND THAT THIS MAY BE A MOVING TARGET THAT CHANGES OVER TIME.

ADJUST YOUR INTENSITY DAY TO DAY OR SEASONALLY AS NEEDED. REMEMBER, THERE IS NO SUCH THING AS 100 PERCENT EVERY DAY.

GET YOUR LIFESTYLE AND NUTRITION IN ORDER! IT NEEDS TO BE COMMENSURATE WITH WHATEVER EXPECTATIONS YOU HAVE OF YOURSELF PERFORMANCE-WISE.

FIVE

It takes a long time and serious effort to understand how to apply this kind of training to create a sustainable and rewarding practice. Find a good mentor, and enjoy the process!



THE TOP

5

PROTEIN *Myths*

BY MIKE T. NELSON, CSCS, PHD

AS A PALEO PERSON, I'M SURE YOU'VE HEARD MANY CRAZY THINGS ABOUT PROTEIN INTAKE. THIS DEBATE HAS BEEN GOING ON FOR DECADES, AND WILL PROBABLY CONTINUE FOR SOME TIME. THUS, THERE ARE MANY MYTHS THAT ARE RIPE TO BE BUSTED.

On to the myths we go! >>



Myth



You Can Only Use 30 Grams of Protein per Meal

THE MYTH THAT YOU CAN ONLY USE 30 GRAMS OF PROTEIN AT ONCE DOESN'T SEEM TO DIE EASILY. DESPITE MULTIPLE SHOTS TO THE HEAD, IT'S LIKE A ZOMBIE ROUTINELY COMING BACK FROM THE DEAD.

Just for fun, let's speculate that you can't use more than 30 grams of protein at once. You and your buddies go to a nice steakhouse and order up a 12-ounce porterhouse, which clocks in at around 80 grams of protein. You're a badass, meat-eating Paleo dude/dudette who likes steak, so you Paleo up and eat all of it at once.

If you can only use 30 grams, where do the other 50 grams go? Do you see a huge steak-looking poo in the toilet the next day? Seriously, where did the steak go?

I believe the confusion arises when we look at protein intake and muscle growth. It is true that the muscle-building response (measured acutely as muscle protein synthesis, or MPS) will max out around 20 grams of a whole, intact protein such as egg,¹⁵ so maybe that's what's driving this myth.

In that study, though, there was no statistical difference in the 20-gram versus the 40-gram group when looking at MPS. The extra protein was oxidized (used) by the body and did not contribute to an increased rate of MPS.

This makes sense, since if eating twice as much protein resulted in twice the muscle growth at all intake levels, you can bet I would be upping my protein intake tomorrow. However, it doesn't work that way, since the muscle growth response to protein intake is not linear—more protein does not result in more results forever.

Being able to only use 20 or 30 grams at once is a total myth.

PROTEIN IS NEEDED FOR MANY FUNCTIONS IN THE BODY BESIDES MUSCLE GROWTH AND REPAIR.



Myth



Too Much Protein Will Damage Your Kidneys

How many times have you heard that eating all that protein will damage your kidneys?

To understand this issue, you need to distinguish between "work" and "damage." It's true that if you eat more protein, your kidneys have to do more *work* to break it down.¹¹ However, this is not an entirely bad thing in healthy people, and it does not *cause* kidney damage.

Just like going to the gym and working your muscles results in their adapting by becoming bigger and stronger, your kidneys (in healthy people) work in the same fashion. Your kidneys work harder, but they soon adapt to the increased demand and go on their merry way without any complaints.

A study done by Lowery et al. in 2011 supported this, finding that

MARKERS OF KIDNEY WORK WERE HIGHER IN PROTEIN-SEEKING ATHLETES, ALTHOUGH MARKERS OF DAMAGE WERE NOT ELEVATED.⁴

In that study, kidney damage was measured by the presence of microalbuminuria. The protein-seeking group, however, was bigger, stronger and leaner than the other group. Pass the protein, my Paleo partner.



Myth



As You Age, You Need Less Protein

Sorry, Charlie. Try again. It's actually the opposite. As you age, your body becomes less responsive to protein (aka "anabolic resistance"), and there is a *decreased* response to the same dose of protein. Research by Yang et al. showed that older adults (average age 71) had a lower protein synthesis response to whey protein around their training time due to anabolic resistance.²¹

The good news is that older subjects were able to get the same response as the young bucks in the study by taking in 40 grams of protein instead of 20. In short, they needed twice the amount of protein to get the same response. If you're older but want to maintain or build muscle mass, eat *more* protein.

» A protein is any nitrogenous organic compound that consists of large molecules composed of one or more long chains of amino acids.

» 20%
of your body
mass is made
up of protein.



» Some ingested protein goes toward building muscle mass, but other proteins are used to create hair, skin (collagen), enzymes and antibodies.

Myth



There Is No Data That Athletes Need More Protein

DR. PETER LEMON WAS ONE OF THE FIRST TO SUGGEST, WAY BACK IN 1991, THAT ATHLETES MAY NEED MORE PROTEIN SINCE AMINO ACID OXIDATION (THE USE OF PROTEIN'S SUBCOMPONENTS FOR FUEL) INCREASES DURING EXERCISE.

He suggested that strength/speed athletes should consume about 1.2 to 1.7 grams per kilogram of body mass per day.⁹

In 2000, Lemon updated this slightly and stated that athletes' protein requirements may be as high as 1.6 to 1.8 grams per kilogram of body mass per day.

In 2009, a position stand on protein by the

American College of Sports Medicine and the American Dietetic Association, along with the Dietitians of Canada, included recommendations for endurance and strength-trained athletes ranged from 1.2 to 1.7 grams per kilogram of body mass per day.¹ This is in close agreement with the 2007 position stand

on protein and exercise from the International Society of Sports Nutrition, with intakes at 1.4 to 2.0 grams per kilogram of body mass per day for physically active individuals.²

All of those recommendations add up to much more than the RDA amounts for protein (typically around 60 grams per day).⁵





Myth 5

You Need a Ton More Protein During Fat-Loss Phases

The fitness industry seems to live by polar opposites. Some cry that athletes don't need that much more protein, while others claim that when you're focused on fat loss, you need a metric ton of protein.

There is data to suggest that increasing the amount of protein in the diet, especially pre-competition when calories are below maintenance, may offer a slight metabolic benefit by maintaining lean body mass while selectively decreasing body fat.^{6,7,19} Of course, this effect can be further enhanced by the use of resistance training.

Data from a few well-controlled studies^{3,7,16,17} on the use of a higher-protein diet on both weight loss and body-composition changes during energy restriction in obese individuals generally demonstrated that higher-protein diets resulted in greater weight loss, and caused individuals to retain more lean body mass.¹²

“FOR ATHLETES INTERESTED IN LOSING MASS AND EXPERIENCING NEGATIVE ENERGY BALANCE, A RELATIVELY HIGH PROTEIN INTAKE MAY BE WARRANTED.”¹⁷

In summary, more protein during a fat-loss phase does help the retention of lean body mass. The average amount of protein used is not super high, and clocks in at about 0.7 grams per pound of body weight.^{6,7,13,19}

If you weigh 200 pounds, that's only about 140 grams of protein per day. While more protein is not harmful and will provide some satiety effects,²⁰ it is probably not needed for muscle tissue retention, and you don't need to freak out if you get a bit less protein. Your muscles won't fall off.

» While animal proteins contain all of the essential amino acids needed by humans, vegetable proteins are typically incomplete, lacking one or more essential amino acids. There are a few exceptions, however: Quinoa, hemp seeds, chia seeds, soybeans and buckwheat all contain the 9 essential amino acids.

» A gram of digested protein yields 4 kcal, but it takes approximately 1 kcal to digest it, the most of any macronutrient, so the net calories are actually 20 to 30 percent less than advertised.

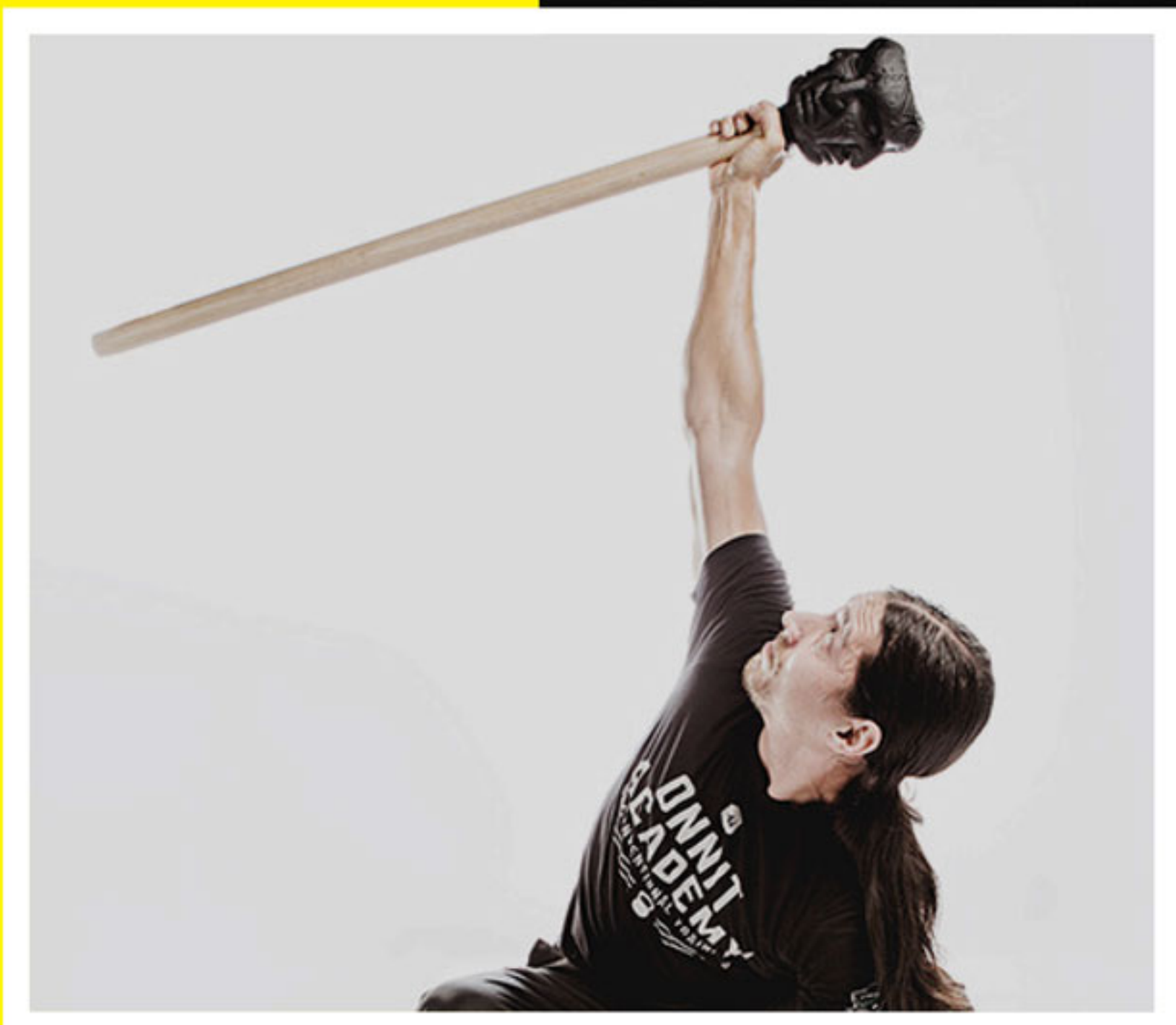
You can eat your Paleo protein in peace, now that you've been informed about these five common myths. Protein intakes around 0.7 grams per pound of body weight, even during periods of very low calories, have been shown to effectively limit lean body-mass loss. You can go a bit higher if you like, as there has not been any data to show you will damage your kidneys—just dent your pocketbook a bit more!



REFERENCES



REVIEW: ONNIT MACE



THE COMPANY: By combining bleeding-edge science, earth-grown nutrients and time-tested strategies from top athletes and medical professionals, Onnit has earned a name for itself as a company dedicated to creating health and performance, or as Onnit says, Total Human Optimization.

THE PRODUCT: The Onnit Mace is fashioned after the medieval weapon of the same name (without the spikes, of course) and is available in a variety of weights, from 7-pound steel maces to the 25-pound “Quad” mace. The steel maces are fashioned out of a single piece of steel and have a smooth matte finish, with two lengths of the handle textured for better grip. There is also a flat spot on the head of the mace that allows it to be stored in a vertical, balanced position. The “quad” is the only version that offers a cast iron head and a wooden handle. The sculpted head is inspired by the work of visionary artist Alex Grey and features four fearsome outward-facing visages.

THE SCULPTED HEAD IS INSPIRED BY THE WORK OF VISIONARY ARTIST ALEX GREY AND FEATURES FOUR FEARSOME OUTWARD-FACING VISAGES.

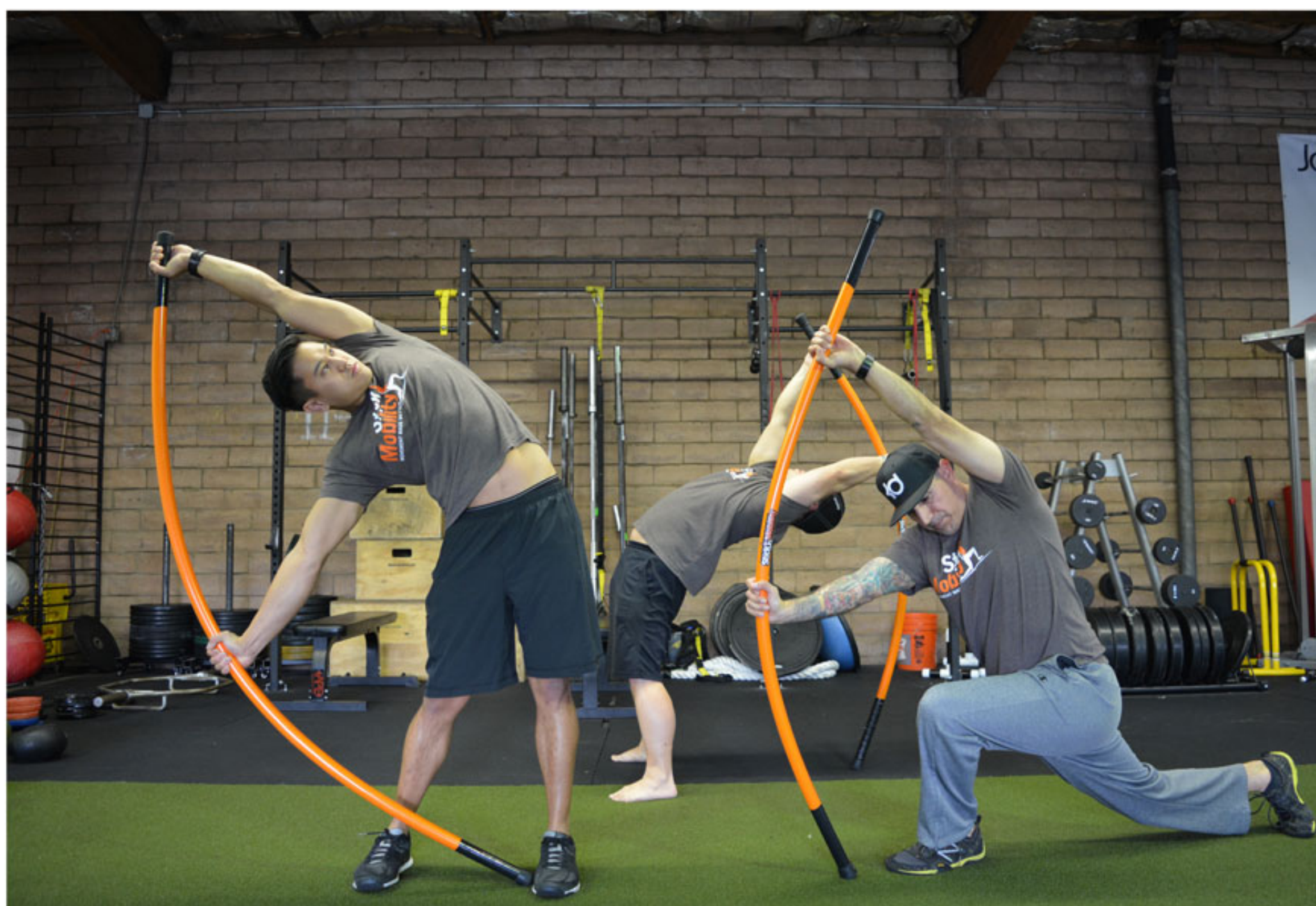
OUR TAKE: Working with a 15-pound Steel Mace proved a significant challenge for our athletic product tester. Mastering the basic movements (many of which are featured on the Onnit website under their “Onnit Academy” section) requires a combination of strength, coordination, balance and technique. We were originally tempted to work with the 25-pound mace but think that exercising discretion and starting with a lighter model was a good move. Similar to the kettlebell, the mace is a versatile piece of equipment that can be combined with a variety of bodyweight movements for fun and functional training.



To find out more, go to:

ONNIT.COM

REVIEW: STICK MOBILITY TRAINER



THE COMPANY: Founded by fitness professionals Dennis Dunphy, Mitch Taylor and Neal Valera, Stick Mobility features a line of flexible mobility “sticks,” as well as instructional videos.

THE PRODUCT: The three founders were active kids who participated in sports growing up, so they knew the value of mobility and flexibility combined with strength. Their original prototype sticks were made of rattan, a flexible section of dried palm popular in furniture making as well as martial arts training. They found that rattan broke down too easily, so they experimented with a variety of materials before settling on the current version’s flexible plastic construction.

OUR TAKE: With sticky rubber pads on each end, the 4- and 7-foot sticks we tested both proved useful in creating interesting new angles for common movements like lunges and squats. Using the apparatus allowed for frontal and rotational movements, which are often ignored in training practices. The durable construction also suggests that the mobility sticks won’t require frequent replacement, even with heavy use. The Stick mobility trainer, especially the longer 7-foot Stick, is a valuable addition to your mobility arsenal.



To find out
more, go to:

STICKMOBILITY.COM

PRO COMPRESSION SOCKS

WEARING THE PRO
COMPRESSION SOCKS
FOR SEVERAL DAYS OF
WRITING, TRAINING
AND WORKING AT A
STAND-UP DESK SEEMED
TO HELP OUR TESTER
AVOID THAT END-
OF-DAY "DEAD LEG"
SYNDROME.

THE COMPANY: Founded by Eric D. Smith, a self-proclaimed "sock freak," PRO Compression offers a variety of compression socks, tights and sleeves. By applying gentle pressure to the extremities, compression gear helps drive blood back to the core, which helps athletes, office workers or anyone who spends a lot of time on their feet achieve better endurance and recovery.

THE PRODUCT: We reviewed the Marathon compression sock that features PRO Compression's "graduated" design. The sock applies greater pressure lower on the leg than it does at the top, which enhances its circulation-improving properties. The socks come in a variety of bright solid and patterned colors, although "Dress" versions of the socks are available in more work-appropriate tones like black, charcoal and khaki.

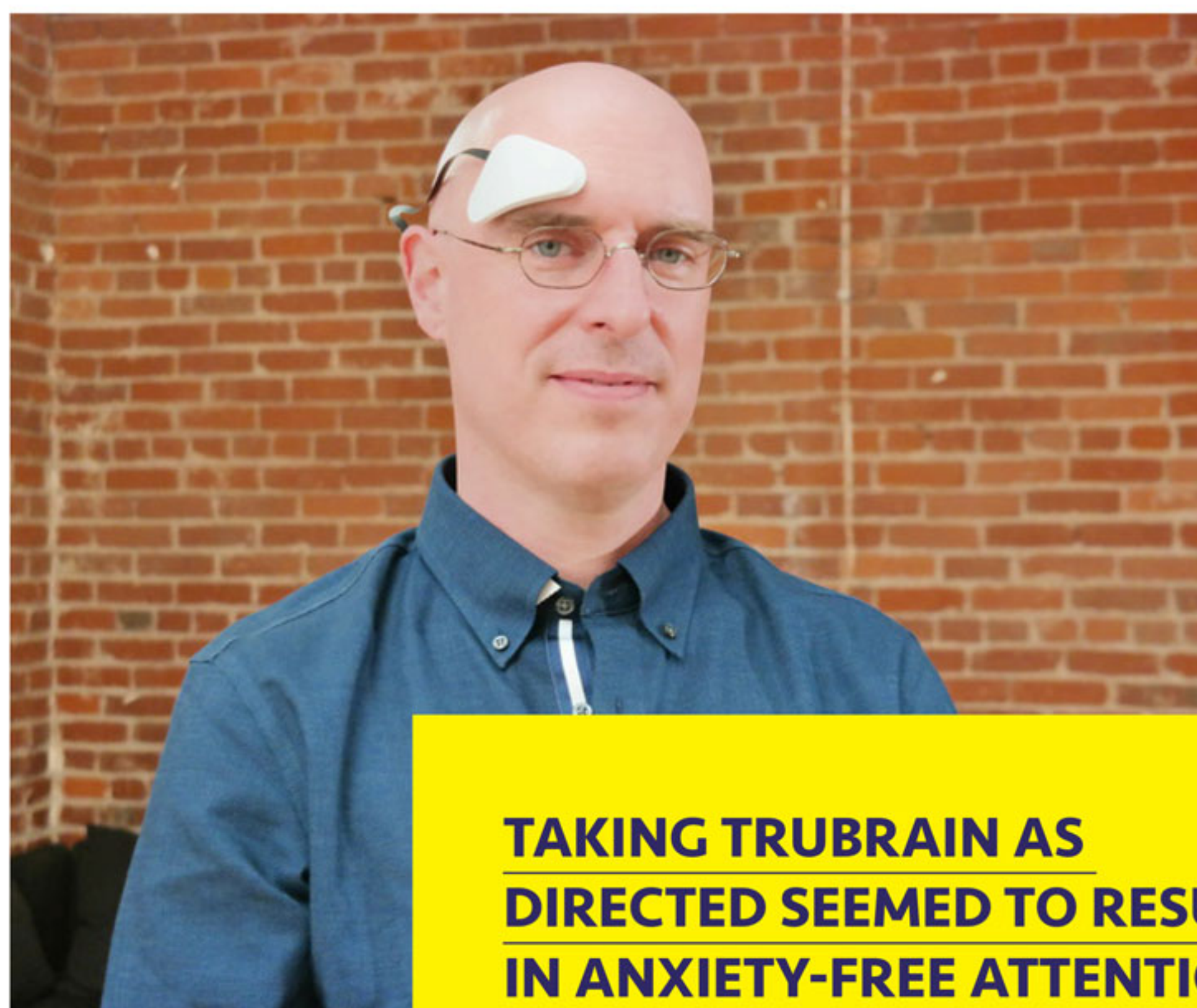
OUR TAKE: Wearing the PRO Compression socks for several days of writing, training and working at a stand-up desk seemed to help our tester avoid that end-of-day "dead leg" syndrome. Overall energy levels seemed to be better, as well. The socks really do "compress," so putting on the knee-high socks can actually be a bit of a challenge at first, and it took a few attempts to get them on smoothly. Once on, however, the socks are comfortable and perform well, wicking away moisture and keeping the legs feeling good all day.



**To find out
more, go to:**

PROCOMPRESSION.COM

TRUBRAIN



TAKING TRUBRAIN AS DIRECTED SEEMED TO RESULT IN ANXIETY-FREE ATTENTION, FOCUS AND AN ABILITY TO "GET SHIT DONE."

truBRAIN



THE COMPANY: In his search for ways to quantitatively improve cognitive performance and mental focus, truBrain founder and CEO Chris Thompson partnered with UCLA cognitive neuroscientist Dr. Drew Hill. The pair brought together a team of chemists, engineers, product developers and neuroscientists. The end result was truBrain, a mind-focusing alternative to conventional caffeine-heavy energy supplements and prescription pharmaceuticals.

THE PRODUCT: truBrain offers a line of nootropic-enhanced capsules, as well as "energy shot"-style drinks. Both the capsules and the drinks feature similar ingredients, a mix of nootropics (piracetam, oxiracetam) and nutrients (DHA, choline, L-theanine and magnesium, among others). truBrain offers a subscription plan for its products, so you can get a month's supply for a lower price if you commit to a 12-month plan versus shorter options like the quarterly plan.

OUR TAKE: Nootropics are known for their ability to increase blood flow to certain areas of the brain and have been used to treat a variety of conditions ranging from autism to cerebral palsy. The clinical results are mixed, but our product tester reported that taking truBrain as directed seemed to result in anxiety-free attention, focus and an ability to "get shit done." truBrain isn't cheap: A one-month supply of truBrain capsules is \$85 under the annual plan, though it probably compares favorably to a Starbucks habit.



To find out more, go to:

TRUBRAIN.COM

FLEXIBILITY TIPS FROM A YOGA PRO

BY LIZ NIERZWICKI →





we've all been there.

DELAYED ONSET MUSCLE SORENESS (DOMS) HITS, AND WE CAN'T EVEN BEND OVER TO PUT ON OUR SOCKS BECAUSE OF THE PAIN IN OUR HAMSTRINGS AND GLUTES FROM THE PREVIOUS DAY'S DEADLIFT SESSION.

As a yoga studio owner and teacher, one of the very first things I hear from people after I meet them and tell them what I do is, "I neeed that, but I'm not flexible." I hear it so often—and I try not to laugh, because all I can remember is the cartoon where Robin is complaining to Batman, "But I'm not flexible!" Batman is smacking him across the face, exclaiming, "That's WHY you practice yoga!"

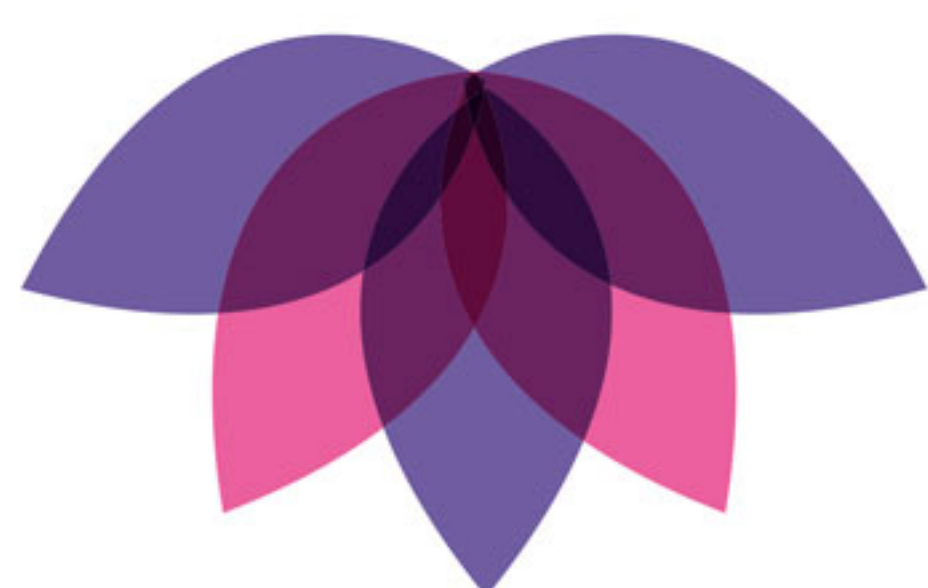
It's so funny to me, because even a kindergartner knows that **to get better at something, first you have to attempt it, and then you have to practice it.** It's the same with yoga. In fact, it's the same with anything. You get better by practicing. But I guess I can't fault people who feel that way; if they're tight and inflexible, they may feel that they will never be able to touch their toes. But I'm here to share some information with you that will help you understand what this flexibility thing is all about. >>>→



in addition
to increasing
flexibility, yoga has
also been shown
to reduce blood
pressure and help
with insomnia.



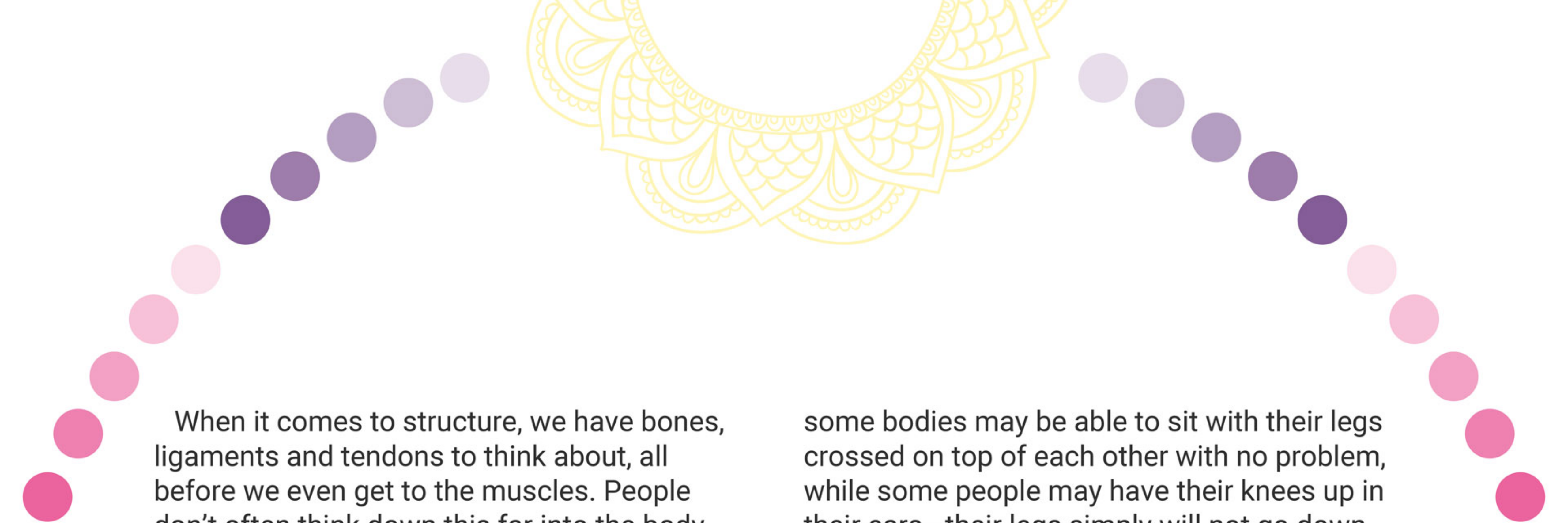
The physical practice of yoga is actually one form of yoga called hatha yoga. There are numerous other yoga practices that have nothing to do with stretching!



Flexibility is a funny thing. I'm not even flexible, and I've been teaching and practicing yoga for over 16 years. But that's because I also lift weights, and the more muscle you have, the more you have to push through, and the more you continually have to work at your flexibility. People think that flexibility is something that you either have or you don't. In actuality, your flexibility comes and goes your whole life, and it can improve if you continue working on it.

When it comes to flexibility and the body, our central nervous system (CNS) is in charge. If you try to go into the splits but you've never done them your whole life, your CNS will prevent you from going too far in order to protect you. On the flipside, if you've been doing splits your whole life since the time you had "baby muscles," your CNS won't have a problem with it. To help you understand the reality of this, if you were to be knocked out cold, you'd become very flexible. You'd basically be flopping around like a ragdoll, because your CNS has been taken out of the picture and it's not telling you what you can and can't do.

Another problem we have when it comes to thinking we're flexible or not is confusion between tissue and structure. I can put someone who has a short iliofemoral ligament next to someone who has a longer one, and the one with the short ligament will think, "I'm not flexible," when it's simply about a difference in anatomical structure. 



When it comes to structure, we have bones, ligaments and tendons to think about, all before we even get to the muscles. People don't often think down this far into the body, but these parts are collectively a critical aspect of how you move. The bottom line is, all of the parts play together. A tight muscle will pull on a ligament or a tendon, and we may be just fine when it comes to stretching the muscle, only to have compression—bone contacting bone—stop us from going any farther. **Muscle tension is simply a tight muscle that you can work on. When you have compression, though, there is nothing that you can do about it except modify.**

If you look at the skeletons of different bodies, you will see that no two bodies look exactly the same. We can have significantly different structures underneath all the layers. I see it all the time. In easy pose (Indian style),

some bodies may be able to sit with their legs crossed on top of each other with no problem, while some people may have their knees up in their ears—their legs simply will not go down. The reason behind this is usually compression and not flexibility (though not always). Another typical situation is squatting down with the heel remaining down. For some people the heel lifts as they squat, and for others it remains flat—this is usually due to compression on the front side of the ankle.

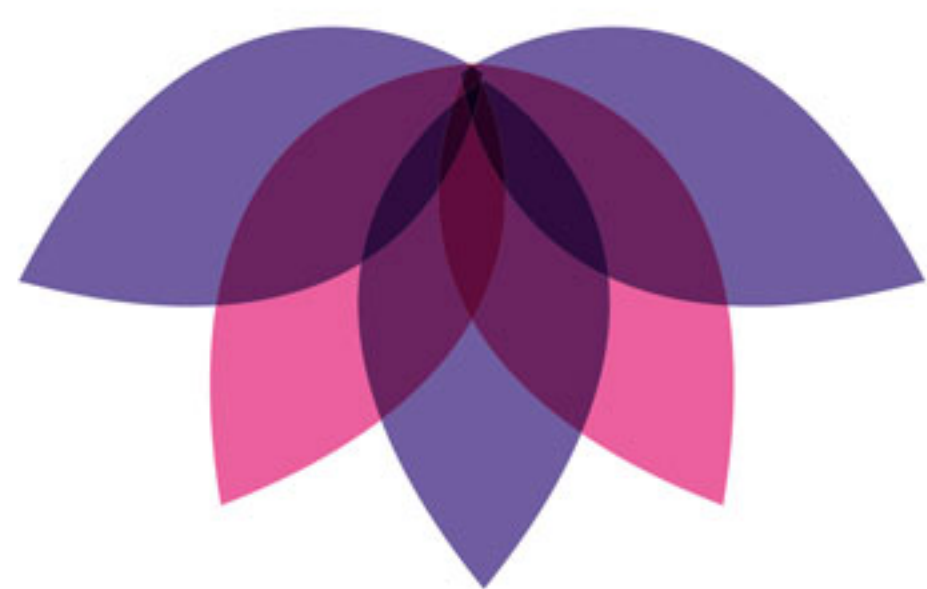
Our bodies are different, and we must honor what we have and work with it, knowing that the only way we will ever experience flexibility, strength or anything else we want to have is by practicing it. By practicing yoga and/or stretching, we can retrain our CNS to know that it's safe for us to go there. You have to move through slowly increasing ranges of motion and prove to your CNS that a new movement is safe, so that it will relax your muscles. I tell my >>>



WHILE VOLUNTARY MUSCULAR CONTRACTIONS ARE CONTROLLED BY THE BRAIN, REFLEXES—LIKE THE REFLEXIVE TIGHTENING OF AN OVERSTRETCHED MUSCLE—ARE CONTROLLED BY PATHWAYS IN THE SPINAL CORD.



According to the Hindu faith, the god Shiva was the first yogi.



students that **stretching their muscles, breathing and calming the CNS all go hand in hand.**

I am a professional athlete who lifts weights and teaches high-intensity interval training classes, and on top of it all, I practice yoga multiple times per week. I teach a type of yoga called Yin yoga, in which we practice holding deep stretches for three to five minutes. The reason for such a long hold is because at first we're working through the muscle, then we're working on the ligaments and tendons. When we come out of these types of poses, we do so gradually in order to allow the body to slowly get back to its homeostasis. This type of stretching is wonderful for injury prevention, and I practice it regularly to keep my body agile.

Bottom line: The less you stretch, the tighter you will become and the greater your risk for injury. **Flexibility is just like anything else—if you don't use it, you lose it.** I also teach yoga to kids, and every single one of them is flexible. If we were to start yoga at a young age and continue throughout our life, we would remain flexible. However, we can start now, no matter where we are, and experience the wonderful benefits that yoga and other stretching practices have to offer.



STRETCHING TIPS & RULES

STATIC STRETCHING = HOLDING STRETCHES FOR LONGER THAN 3 TO 5 BREATHS. DON'T DO THIS BEFORE A LIFT SESSION OR WORKOUT.

DYNAMIC STRETCHING = MOVING THROUGH POSES THAT STRETCH YOU AND OPEN YOU UP, AT A QUICKER PACE. HOLDING FOR 1 TO 2 BREATHS IS IDEAL. THIS WILL WARM YOU UP AND OPEN UP YOUR MUSCLES A LITTLE BIT BEFORE A WORKOUT.



STATIC
STRETCHING
VIDEO

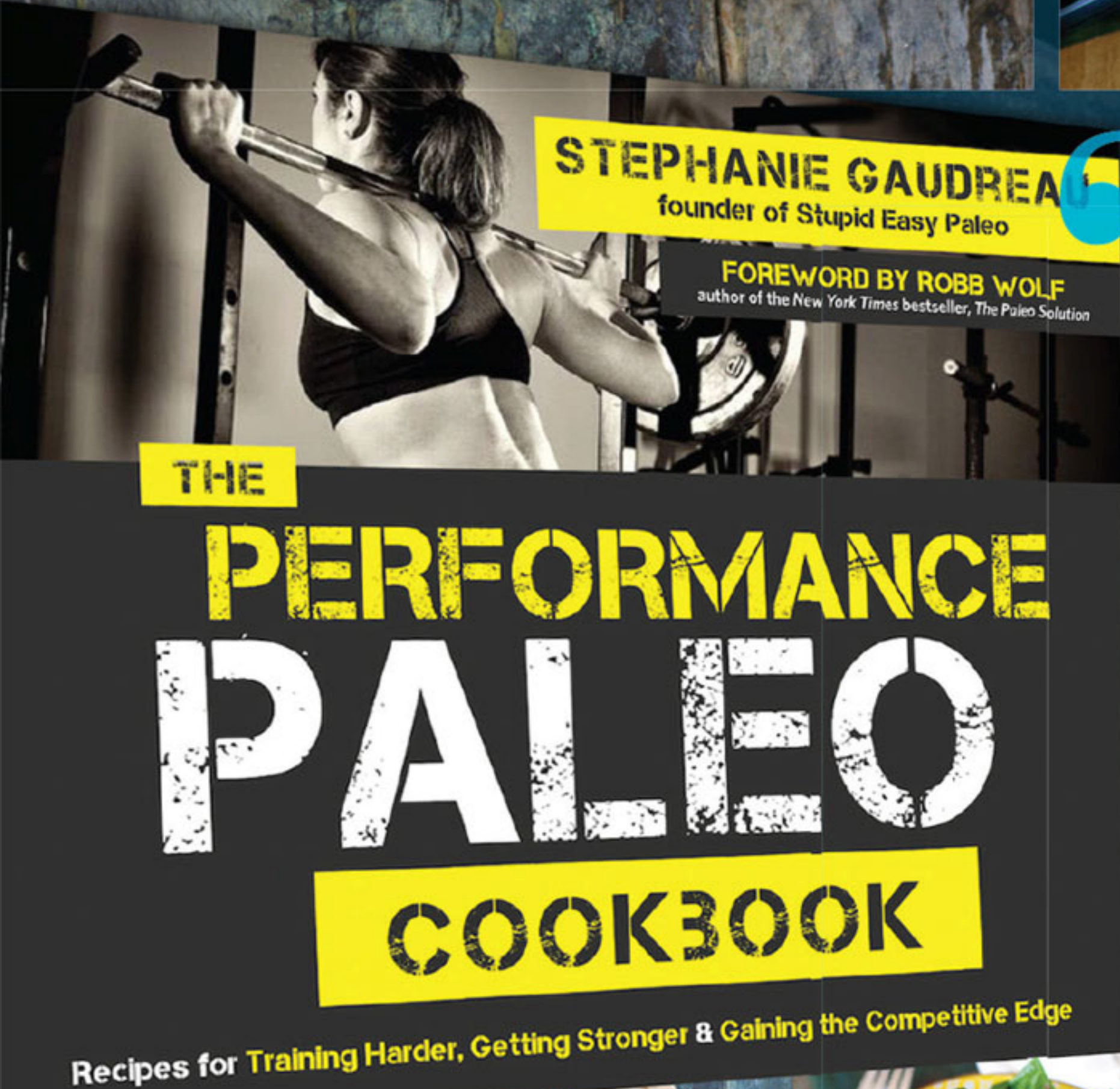


DYNAMIC
STRETCHING
VIDEO

CREATE A BALANCED BODY BY DOING REALLY GOOD WORKOUTS THAT STRENGTHEN YOUR MUSCLES, AND THEN DO A DEEP STRETCH OF THOSE MUSCLES THE NEXT DAY.

THE MAGNESIUM IN EPSOM SALT BATHS PROVIDES GREAT SUPPORT FOR A HEAVILY WORKED BODY.





“The Performance Paleo Cookbook is the definitive guide for fueling active folks with real food that not only boosts strength and endurance but also tastes amazing. Stephanie Gaudreau has got it all—brains, brawn and kickass cooking chops.”
—Michelle Tam,
New York Times bestselling author of *Nom Nom Paleo: Food for Humans*

“Steph’s goal was to create a simple, easy-to-follow guide for people looking to fuel their training—both in and out of the gym. She not only executed her goal, she knocked it out of the park. The recipes are tasty and easy-to-follow, my two prerequisites when entering the kitchen.”
—John Welbourn,
Founder of CrossFit Football and Power Athlete HQ, 9-year veteran of the NFL

“There is a lot of confusion on when and what to eat to optimize health and performance. Not only does this book have delectable food ideas, but it also clarifies when to eat them!”
—Eva Twardokens,
Two-time Olympian in Alpine Skiing, Class of 2011 Ski Hall of Fame

“Throughout this book, you’ll find all the practical application strategies you’ll need to improve your athletic performance while continuing to improve your health and quality of life. Whether you are a collegiate track and field athlete, a middle-aged CrossFit competitor or a starry-eyed twenty-something headed off to climb big mountains, this book will chart your course for a better way to build your performance diet.”
—Dallas Hartwig,
New York Times bestselling co-author of *It Starts with Food: Discover the Whole30 and Change Your Life in Unexpected Ways*

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TRAIN LIKE A BEST

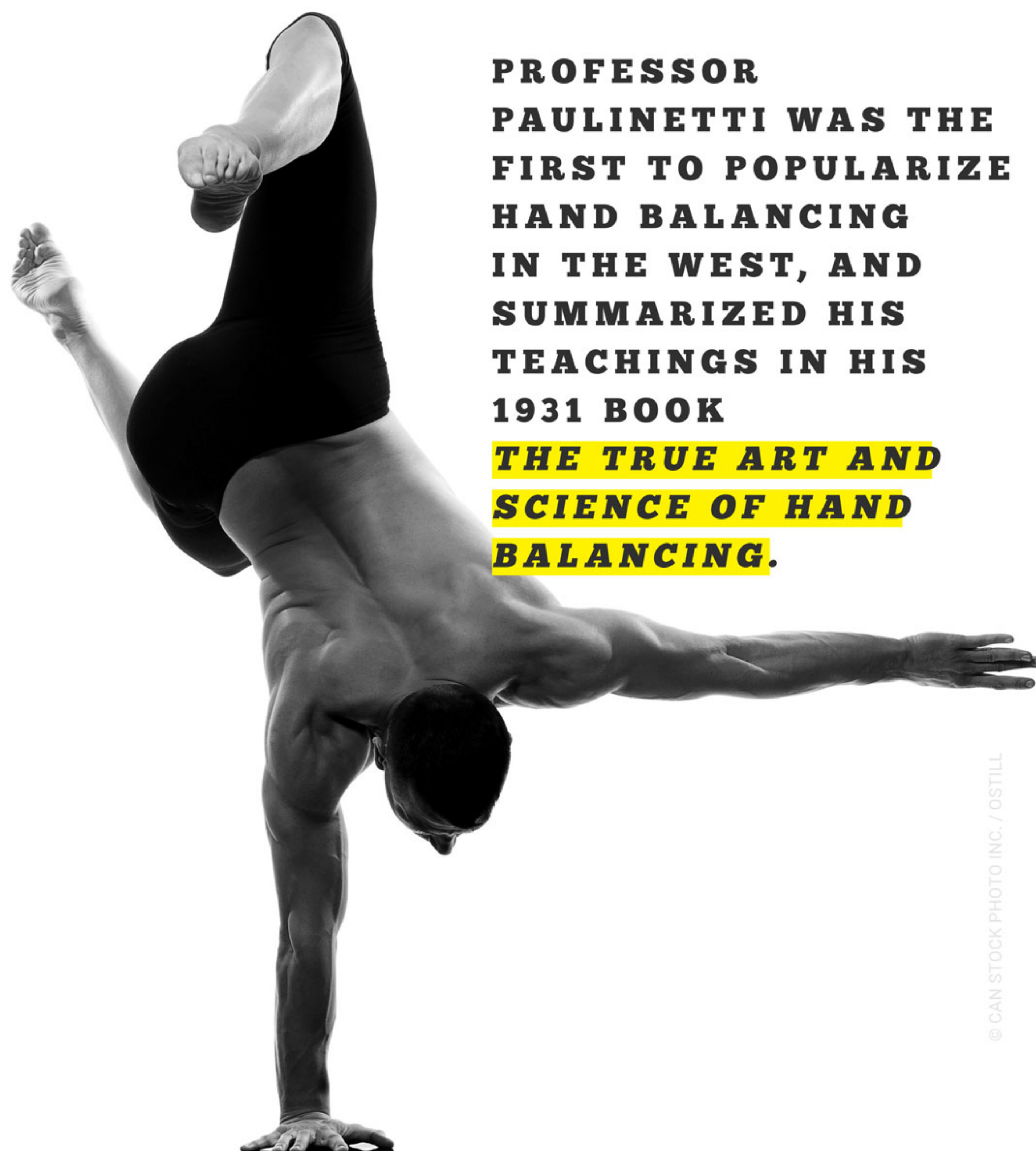
ANIMAL FLOW 101

► BY MIKE FITCH

► PHOTOS BY MATT ROY PHOTOGRAPHY

“What are you doing? It kind of looks familiar, but I can’t exactly place it. **CAN I TRY IT?”**

**THE TRUE ART AND
SCIENCE OF HAND
BALANCING.**



And it might look familiar because it is heavily influenced by many different body-weight disciplines, from gymnastics and parkour to breakdancing and hand balancing. What makes Animal Flow really special, though, is the way we put it all together and use the practice of it to improve your overall movement.

The benefits of all of this are pretty powerful: increased mobility, greater flexibility, enhanced stability, more power, longer endurance, advanced skills and improved neuromuscular communication.

So what exactly is it? The quick answer is that Animal Flow is a movement-focused program that uses quadrupedal and ground-based exercises to reconnect your body to itself. The practice is made up of multiple components, each designed to elicit specific results.

First, there's the "animal" component, where you find exercises that mimic the movements of animals. We center these around the Ape, Beast and Crab (the ABCs). We also use a lot of movements that don't look like animals, but are nonetheless still based on keeping your limbs connected to the ground. (We'll show you how to perform a few of those below.)

Second, there's the "flow" component, which is all about seamless movement, or being able to transition from one movement to the next with as much fluidity as possible. Once 

you've learned the basic moves, you can put them together in an infinite number of ways, flowing wherever and whenever you want.

One of the most important things Animal Flow does is improve your body's own communication. This includes how well you can consciously communicate with your body and coordinate movement, but also how your body communicates with itself on a subconscious level.

All Animal Flow movements are quadrupedal, meaning both hands and feet are in contact with the ground. This sets the stage perfectly for communication. For example, imagine holding yourself in the Beast position described below. Having both hands and feet in contact with the ground forces your body to exchange information about where it is in space. It makes the feet talk up the legs to the hips, and the hands talk up the arms to the shoulders. This, in turn, encourages the hips to communicate to the shoulders via the spine and core. Everything in your body is talking, and the better the body is able to communicate, the better it's able to coordinate and function. Not to mention, keeping your muscles talking or working is keeping your blood and oxygen flowing, which means burning more calories.

**HAVING
BOTH HANDS
AND FEET IN
CONTACT WITH
THE GROUND
FORCES YOUR
BODY TO
EXCHANGE
INFORMATION
ABOUT WHERE
IT IS IN SPACE.**

Many people spend the majority of their workday seated, **HUNCHED OVER A COMPUTER, AND THEN GO SIT ON A MACHINE** when they work out.

Communication is closely related to the theme of consciousness in Animal Flow. It's common for people to be disconnected from their body unless they experience pain. Returning to our Beast example, the process of coordinating your hands and feet increases body awareness and stimulates cognitive brain function. You have to be focused and mindful about what you are doing. And you may just have a little fun in the process!

Finally, one of the key elements that makes Animal Flow so beneficial is variability.

Many of the movements are multi-planar and rotational. Many people spend the majority of their workday seated, hunched over a computer, and then go sit on a machine when they work out. And chances are that machine is going to have them moving in the exact same plane of motion (sagittal plane) that they sat in all day. Even if they are doing some free-motion exercises using dumbbells, barbells or even kettlebells, a lot of the movements are still in that same plane of motion. Being stuck in those same motions all day can easily lead to muscle imbalances, overuse and eventually injury. The human body needs to be strong and effective while moving in all directions.

Basically, you've got to break up your patterns, which is exactly what these Animal Flow movements do. Give them a shot using the examples provided, or try adding the individual pieces into your regular routine. There's no right or wrong—just get moving!



**A STUDY
PUBLISHED IN
THE JOURNAL
PROCEEDINGS OF
THE NATIONAL
ACADEMY OF
SCIENCES
REVEALED THAT A
HUMAN BIPEDAL
GAIT IS FOUR
TIMES MORE
ENERGY EFFICIENT
THAN A CHIMP'S
"KNUCKLE-
WALKING."**



ANIMAL FLOW BASIC MOVEMENTS

1. CRAB REACH

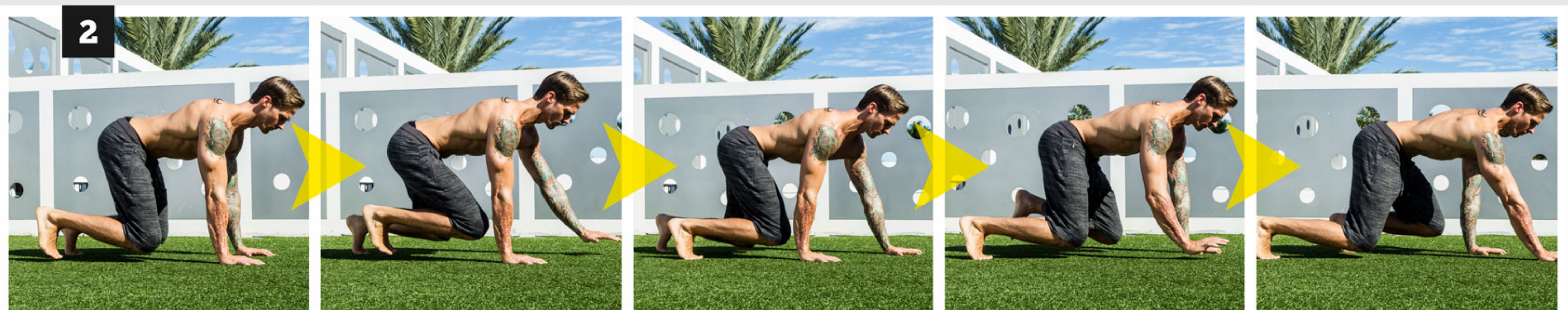
Begin in Crab position with the hips 1 inch from the ground, being sure that the fingers are pointing behind you. Bring the reaching arm up toward the face. Lock it in between the eyes. Push the hips up toward the sky as you push the heels down. Once you reach full extension at the hips, continue to follow the hand up and over with your eyes until you're looking down at the ground. The upper arm should be completely relaxed, framing the head.

2. FORWARD TRAVELING BEAST

Place the hands directly under the shoulders with straight elbows. Pull the knees just in front of the hips, underneath the belly button. Lift the knees 1 inch from the ground to set the Static Beast. Begin traveling by lifting the opposite hand and foot, then stride an equal distance and land at the same time. Be sure to keep the knees 1 inch from the ground the entire time, trying to minimize any lateral shift or rotation.



**DUE TO THE STRUCTURE
AND ALIGNMENT OF
THEIR LEGS, MOST CRAB
SPECIES CAN ONLY MOVE
SIDE TO SIDE. >>>**

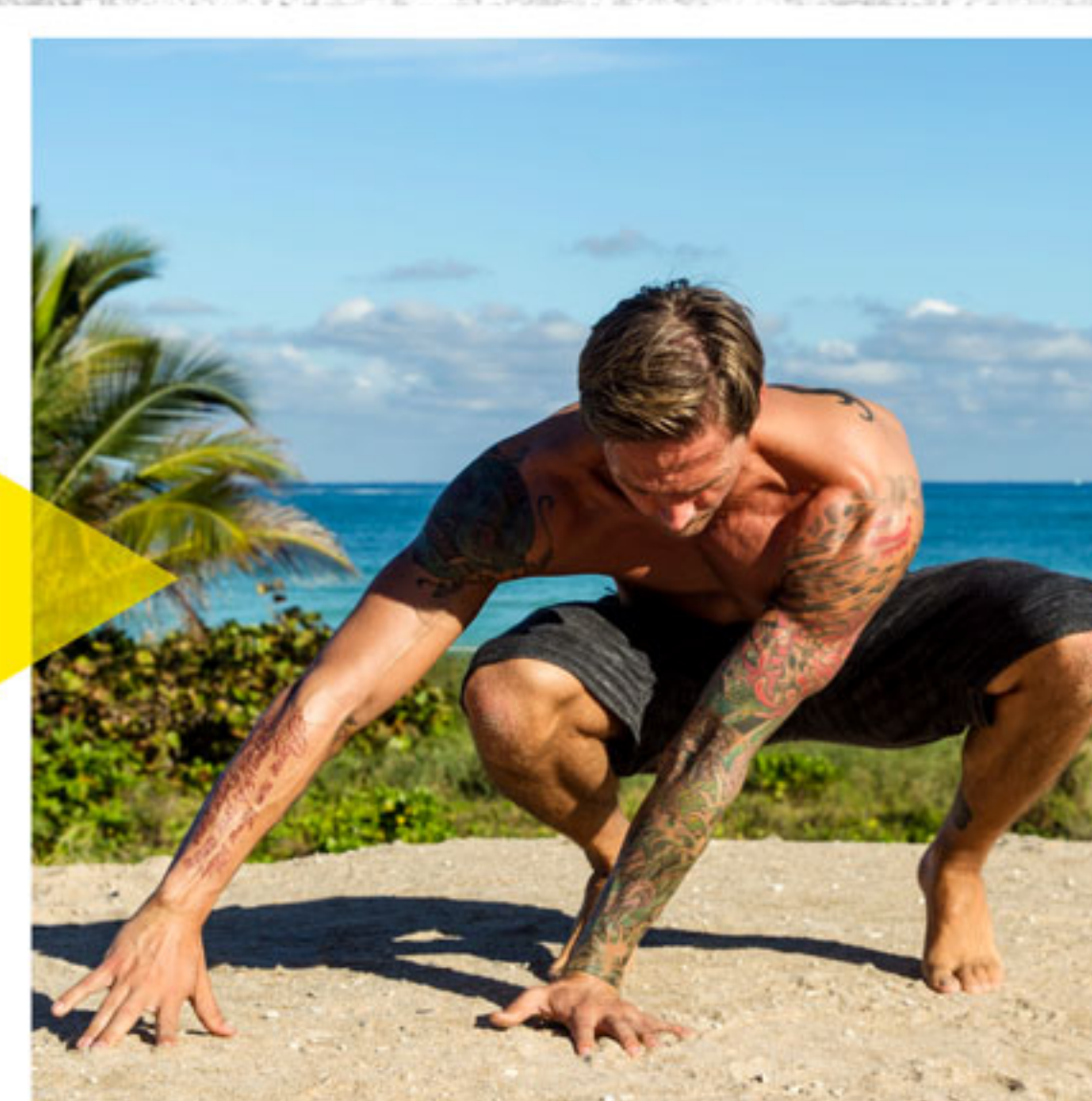
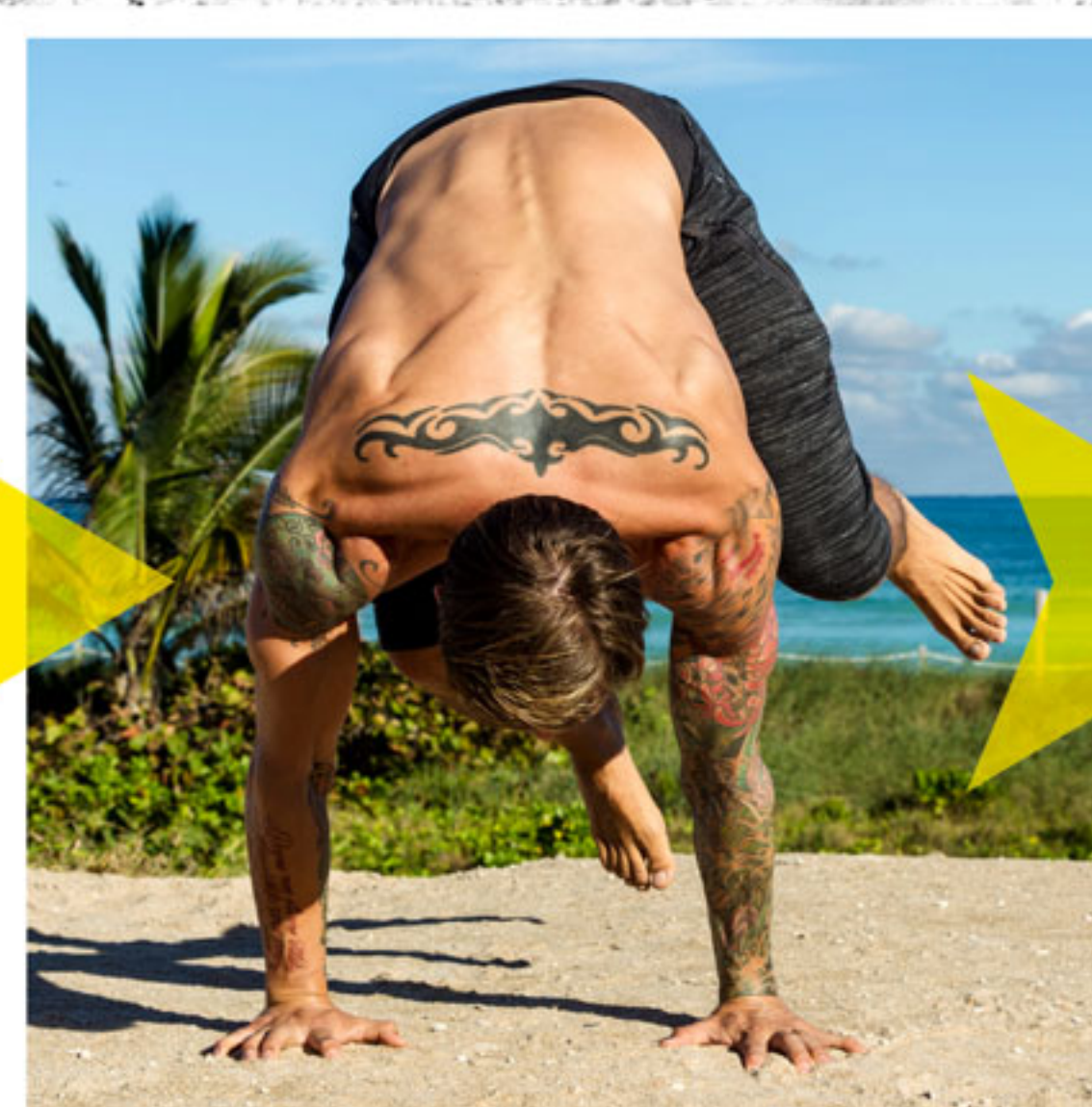
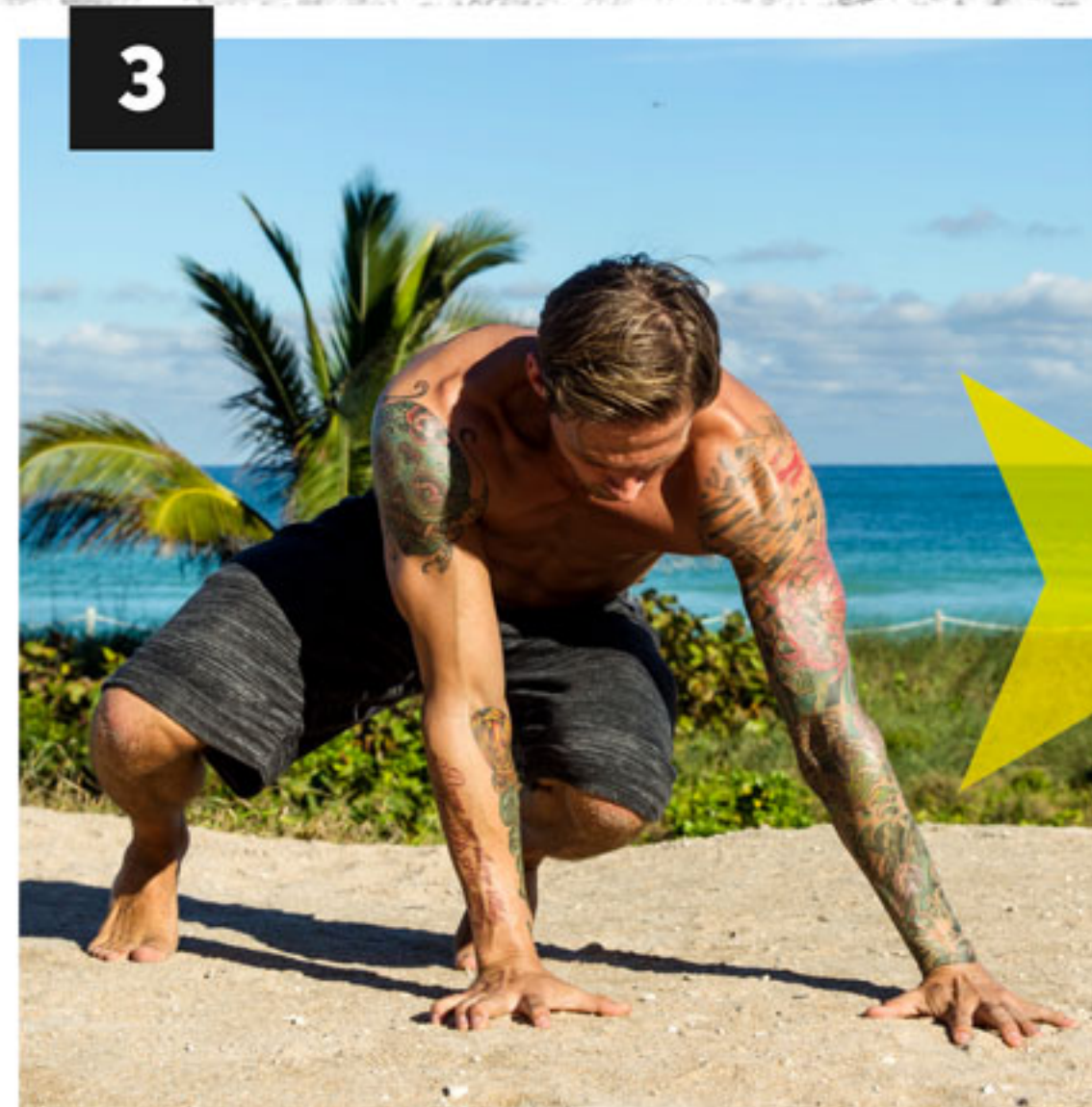


THE BENEFITS OF ANIMAL FLOW include increased mobility, greater flexibility, enhanced stability, more power, longer endurance, advanced skills and improved neuromuscular communication.

**THE
“KINESTHETIC”
OR MOVEMENT
SENSE CAN
REFER EITHER TO
PROPRIOCEPTION
ALONE OR TO
THE BRAIN’S
INTEGRATION OF
PROPRIOCEPTIVE
AND VESTIBULAR
INPUTS.**

3. LATERAL TRAVELING APE

Start in a deep squat, making sure that the heels are touching the ground. Reach across the body, planting the hands to where the trailing hand is in front of the leading foot. Press down into the ground, shifting the legs sideways. The back foot always lands first. Be sure to bring the heels down and the eyes up to complete the rep.





A man with tattoos is shown in a low lunge position on a sandy path. He is wearing dark shorts and is looking down. The background features a beach, blue water, and a clear sky. A large yellow flag is visible on the right side of the frame.

A shirtless man with extensive tattoos is captured in a dynamic, low-to-the-ground pose on a sandy beach. He is leaning forward, with his right arm extended and hand near his face, and his left arm bent. He wears dark, patterned shorts. The background features a clear blue sky, a calm ocean with white surf, and some greenery. Two large, bright yellow triangular shapes are overlaid on the image, one on the left and one on the right, pointing towards the center.



The Underswitch is a transition used to switch from Crab to Beast or vice versa. It's important to note that the traveling leg will always pass underneath the body and never over. To start the movement, get set up in Static Beast or Crab. Lift one foot and the opposite hand from the ground, and rotate with the leg as it travels underneath the body, finishing in the opposite Animal form.

Begin in Static Beast. You'll be kicking directly out to the sides or at a 90-degree angle from the Static Beast. To initiate the movement, lift the foot of the kicking leg and the opposite hand from the ground. Rotate with the kicking leg as it travels underneath the body. Once the leg passes underneath, begin to straighten the knee and point the toes. The elbow of the lifted hand pulls in the opposite direction of the kicking leg. In the end position, the hand should be by the face, with the palm facing away. >>>>→

INTRODUCTORY

ANIMAL FLOW CIRCUITS

CIRCUIT 1

Place two cones or objects about 10 to 15 yards from each other (or closer if space is limited). These will be Stations 1 and 2. Perform the following circuit.

1. BEGIN AT STATION 1
2. CRAB REACH 10 REPS EACH ARM
3. FORWARD BEAST TRAVEL TO STATION 2
4. CRAB REACH 10 REPS EACH ARM
5. LATERAL APE* BACK TO STATION 1
6. REPEAT

**Be sure to switch directions of the Lateral Ape with each set.*

CIRCUIT 2: FLOW SEQUENCE

1. BEGIN IN BEAST
2. LEFT LEG UNDERSWITCH (TO CRAB)
3. LEFT LEG UNDERSWITCH (BACK TO BEAST)
4. RIGHT LEG UNDERSWITCH (TO CRAB)
5. RIGHT LEG UNDERSWITCH (BACK TO BEAST)
6. LEFT LEG SIDE KICK THROUGH
7. BACK TO BEAST
8. RIGHT LEG SIDE KICK THROUGH
9. BACK TO BEAST

**Repeat the entire sequence for 60-second sets.*





POWER LIFTING 101:

**Breaking Down
the “Big Three”
and Safely
Lifting the Most
Weight Possible**

► **BY JENNIFER VOGELGESANG BLAKE**

Photos by Martin Rittenberry

In powerlifting, competitors are tested on their one-rep max strength of three lifts, commonly known as the **Big Three: the barbell back squat, bench press and deadlift**. Every competitor gets three chances to test their strength on each lift, with the goal being to set a personal record (or even a state or American record) and/or win a medal for placing in their weight class.

Any able-bodied human can train for and compete in powerlifting, and those who do often find the sport a bit addicting based on the numbers alone: The three powerlifts test exactly how much weight you can pull off the floor, squat on your back and press off your chest. They're lifts that require you to use all of your major muscle groups, and because of that, there is great potential for learning how to move the most weight possible.

Unlike those who are looking to lose those last 10 pounds, for powerlifters, there is no end game. The main goal is to slowly but steadily build strength, so that every time a lifter sets foot on the platform, they can outperform their previous personal bests.

If your goal is to better your fitness through strength training, there is more than one way to track your progress. You can measure improvements through exercise frequency (hitting the gym three or four times a week instead of one or two), density (finishing the sets and reps of an exercise faster than your previous training bout) and volume (performing a greater number of reps at the same or a heavier weight). While those variables do appear in powerlifting training, the measurable variable for competition is more specific: It's called intensity, which in this case means the number of pounds on the bar.

Because of this, the execution of these lifts needs to not be taken lightly. **Beyond raw strength, your technique when performing each lift is largely going to determine the success or failure of the lift in training and in competition**, if you choose to compete. Read and then implement these tips for the Big Three to forge an extremely strong, capable body, and to keep your body safe and your personal records on track every time you hit the gym. ➤➤➤

BARBELL BACK SQUAT

The barbell back squat is a must-do for anyone looking to improve their muscular strength and the appearance of their quads, hamstrings, back and core. Here's how you do it, from the pages of *Unapologetically Powerful: A Guide to Growing Your Squat, Bench, and Deadlift*:

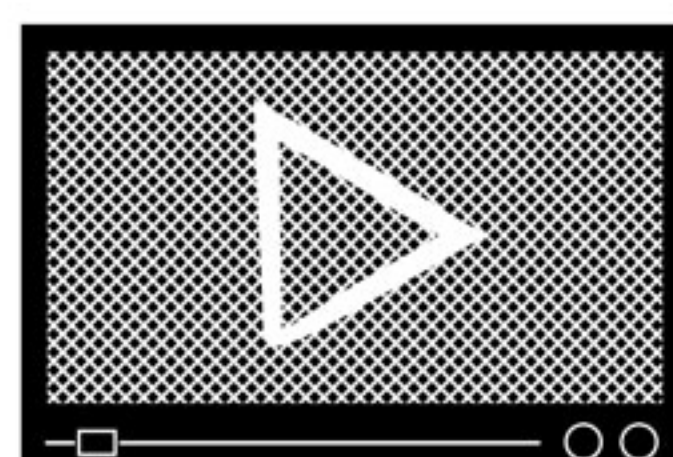
- 1 Inside a squat rack, position the bar on your upper traps, just below the bony part of the back of your neck.
- 2 Standing directly under the bar, stand up with the weight; then, taking small steps, back up just until you've cleared the hooks.
- 3 Initiate the squat by pushing your butt backward and bending your knees.
- 4 Keeping your torso upright, your spine neutral and your knees in line with your toes, lower yourself as far as you are comfortably able. *(If it's not very far, adjust your foot position and try turning your toes slightly outward, but don't go farther than is comfortable.)*
- 5 As you descend, keep your knees tracking in the same direction as your feet, then push off the floor to stand to a full lockout.
- 6 Return to the starting position and repeat.



The sport of powerlifting, as it is known today, has only existed since the middle of the 20th century. Prior to that, the various movements were considered "odd lifts."

Jennifer Blake in the bottom position of a barbell back squat at the Twin Cities Open powerlifting meet, August 2015.

For you virtual learners, check out the video to learn more:



Hand position is important. Where you put them can help your squat either fall in line or fall apart. Position your hands on the bar as close to your shoulders as your shoulder mobility will allow (if your shoulders hurt, your hands are too close), and in a position that *also* allows your elbows to point toward the floor. This will increase your torso stability and lessen your chances of tipping too far forward on the ascent.

At the bottom of the squat, push your elbows forward and drive your shoulders back into the bar. This will help keep your torso upright and your butt from shooting up before the bar begins to move upward.

For squat depth to be considered "meet legal," your hip crease must break the knee in the bottom position. But some lifters might not have the strength or stability to safely squat down that far just yet, or they might not know exactly how far down a meet-legal squat is. This is totally fine! Don't force your body into a position it isn't ready for yet, and take some time to learn what squatting to depth feels like. >>>

The **barbell squat to box** is an excellent squat variation for lifters who need to ease into a deep squat. Set up exactly the same as you would for a barbell back squat, but with a box positioned behind you. The height of the box should be high enough to meet you at your current strongest and most stable bottom position. Pull your butt down to the box, tap your tush to it, and then immediately explode back up to your start position. As you get stronger and more comfortable in the bottom position, incorporate lower and lower box heights.

BENCH PRESS

It might surprise you, but the barbell bench press could be considered the most finicky of the three powerlifts. While the thought of the lift might conjure up an image of a bro with a very developed upper body who looks like he skips training legs, loudly repping out a max bench and calling it a day, the bench press actually possesses quite a bit more nuance.

Hand and foot position, arch and bar path play an important role in a successful bench press, and it's a lift worth the time it takes to practice and get right. Not only will you learn how to move a considerable amount of weight, but you will develop aesthetically pleasing musculature in your upper body, as well.

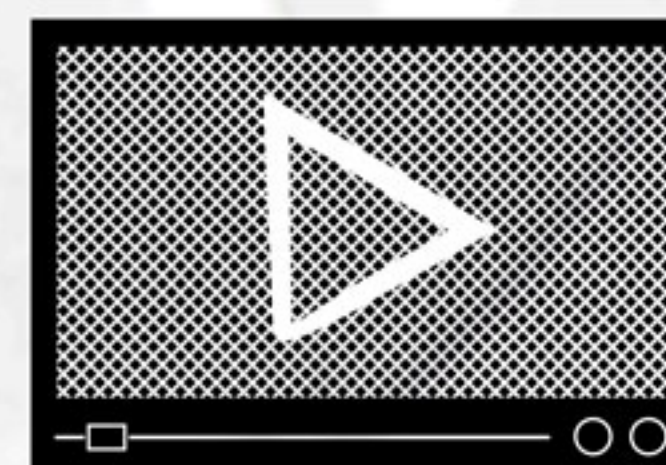
Here's how you do it, from *Unapologetically Powerful*:

- ❶ Lie down on the bench with your eyes under the bar, knees bent and feet flat on the floor.
- ❷ Scoot your body down the bench without moving your feet, until the bar is behind your head. Squeeze your butt, and arch your back.

In powerlifting, the term “raw” refers to a lift performed without the use of special shirts or wraps that can significantly increase performance.

- ❸ Next, use your hands and push into the sides of the rack or bench arms to tuck your shoulder blades together, while drawing them down into your back pockets.
- ❹ At this point, your back will be arched. The size of your arch will be unique to you, but this position will be tight: Your glutes and the muscles of your back will be engaged, but not painfully so. Lessen your arch if you feel any pinching or discomfort in the lower back or neck.
- ❺ Position your hands widely enough on the bar so that when the bar is in the bottom position, your wrists are stacked right over your elbows.
- ❻ Unrack the bar, or have a lifting buddy assist with the liftoff, and place the bar in your starting position.
- ❼ Draw the bar down toward your nipple line, reaching your chest up to meet the bar. Think

Check out the video to learn more:



↑ Jennifer Blake in the “top” position of a barbell bench press.

about rowing your chest up to the bar, and don't reverse the movement until the bar has touched your chest. In a powerlifting competition, the judge won't give you the “Press!” command until the bar comes into complete contact with and is motionless on your chest. Whether you're competing or not, it's good practice to eliminate any bouncing or heaving off the chest by bringing the bar to a half-second standstill on your chest before you initiate the press.

❽ Leg drive is important in the bench press. When you reverse the movement, push down through your feet and attempt to drive your entire body off the bench.

❾ At the same time, push the bar back toward the rack, fully locking out the arms. ➡➡➡



Hot Tips for the Bench Press

If your feet don't reach the floor, put blocks or weight plates under your heels.

The bar's starting position at lockout is going to be unique to you. Record-setting elite powerlifter Brandon Lilly has a YouTube video on bench press setup, and makes a suggestion that I am completely on board with: Position the bar where you feel the most strong and stable. This could be anywhere between your chin and your nipple line. Experiment with an unloaded bar to find the starting position that's right for you.

If you bench alone, bench inside a power rack if one is available to you. Position the safety bars in the power rack low enough to allow the bar to touch your chest on every rep, but high enough to protect your neck should you fail to complete a rep.

Note: Your hips should not shoot up before the bar leaves the floor. If the hips move, the bar should move.

BARBELL DEADLIFT

In a powerlifting meet, two deadlift positions are allowed: conventional and sumo. The difference between the two comes down to hand and foot position: Conventional deadlifts are when the feet are approximately hip-width apart to shoulder-width apart and the hands are on the bar just outside the legs. Sumo deadlifts are when the feet are about a shoulder and a half to two shoulder-widths apart, and the hands are hip-width apart on the bar.

While sumo stances can get very wide, to the point where the lifters' toes are almost touching the weight plates, I've found that the most "raw" lifters—ones who don't use supportive equipment like squat suits, bench shirts and knee wraps—are much more comfortable deadlifting with a slightly narrower stance.

The barbell deadlift comes at the end of a powerlifting meet, and because of that, it has the potential for some high drama. This is where competitors will try to out-lift each other to vie for medal placing, and where many lifters will attempt to lift more weight than they have all day. (This isn't always the case, however—some lifters are able to squat more than they deadlift.)

Pure, raw strength and the barbell deadlift are like peanut butter and jelly: The pairing of the two makes each of them that much better. There isn't a muscle in your body that escapes the attention of a deadlift, and because of that, great deadlift technique is a must from start to finish.

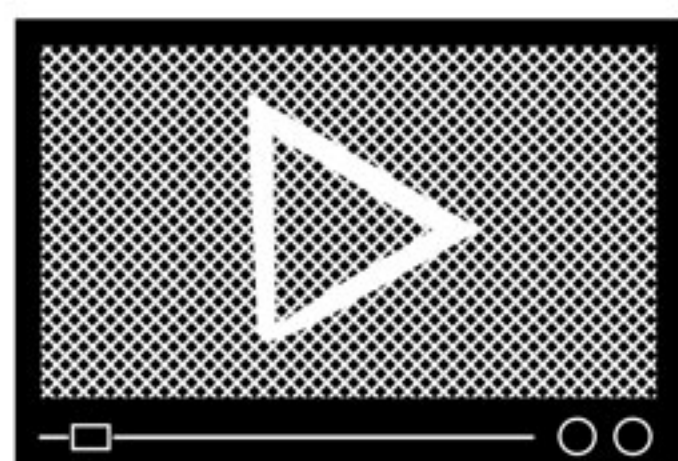
From *Unapologetically Powerful*, here's how to do them:

Conventional Deadlift

- 1 Assuming a shoulder-width stance, feet pointing straight forward or slightly outward, step up to the bar so that your shins are touching the bar. From this point on, the bar should remain in contact with your body. Your shins should be vertical.
- 2 Hinge at the hips and push your butt back as far as you can easily.
- 3 At this point, your hands should be only a few inches from the bar. Bend slightly at the knees until you can grasp the bar.
- 4 With your hands just outside of your legs, grip the bar with a double-overhand grip (both palms facing toward you).
- 5 Take a breath.
- 6 Get your chest up—someone across the room should be able to read the front of your shirt.
- 7 Push the floor away and stand up with the weight. Exhale as you stand tall, with your shoulders back and your chest up at lockout.



**Check out
the video to
learn more:**



The Olympic lifts (snatch and clean and jerk) are not considered “powerlifting.”

Donna Adams, waiting for the “down” command from the judge after a successful second deadlift attempt.



Sumo Deadlift

- 1** Set up a barbell on the floor and stand behind it with a wide stance—feet about a shoulder and a half to two shoulder-widths apart—and feet turned out slightly. (The right width for you is when your shins are vertical when your hands are gripping the bar.)
- 2** With shins vertical and in contact with the bar, push your butt backward until you can grip

the bar with your hands inside your knees.

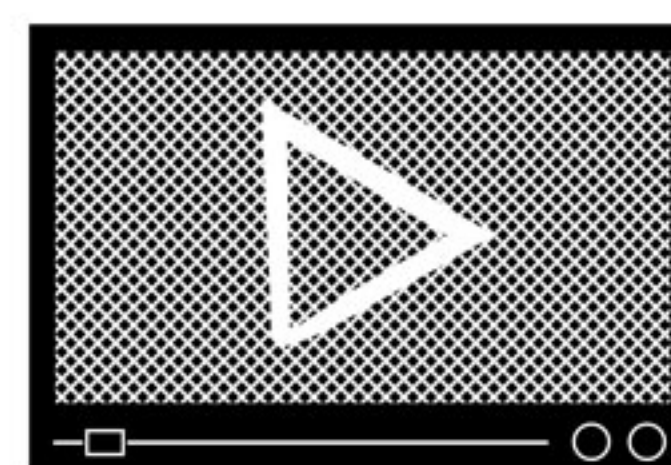
- 3** Grip width will vary, but most people will find a good position with their arms straight down and parallel. Putting your hands too close together will cause the bar to teeter-totter in your hands and feel unstable. Too wide and you'll have to drag your hands up your legs, creating additional friction.

- 4** Take a breath.
- 5** With your chest up, think about pushing the floor away and stand up with the weight, keeping the bar close to you during its ascent.
- 6** Exhale as you stand tall, with your shoulders back and your chest up at lockout. Return to the starting position on the ground and repeat.



Early powerlifting events included biceps curls and upright rows, but those movements were abandoned in favor of the “Big Three.”

Check out the video to learn more:



Hot Tips for the Barbell Deadlift

Rule number one for a safe deadlift: Keep the bar in contact with your legs from start to finish. Many gym floors are uneven, and nothing drives me crazier than chasing after a barbell and pulling it toward my shins. This simple solution comes from world-record-setting powerlifter and personal trainer Jordan Syatt: Step to the other side of the bar and let it roll into you. Voila!

Start your first deadlift set with your hands in a double-overhand grip, with both palms facing your body. As you move through your set, your grip strength may become a limiting factor, and it may begin to fatigue before your legs do. When this happens, mix your grip by gripping the bar with one palm turned toward your body and one palm turned away. Switch your grip on every set. Doing this will give both hands the chance to work hard.

When you set up for your deadlift, make sure your hips are lower than your shoulders. Due to lifter height and limb length, everyone's setup will look a little different. Even so, setting up with your hips below your shoulders will allow you to effectively use leg drive to break the bar off the floor and put your spine in a much more stable position against the load of the barbell.

Jennifer Blake celebrating her successful third attempt back squat at 286.6 pounds.



The classic Converse shoes known as “Chuck Taylors” were originally developed for use by basketball players, but were embraced by powerlifters for their light weight and flat, durable soles.





the art and SCIENCE of exercise progression

AN
INTERVIEW
WITH
JAMES
FITZGERALD

BY DR. LAURYN LAX



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“FUNCTIONAL FITNESS”

is a highly touted phrase these days. But what exactly is it? Can you define it?

Many may characterize it according to its components:

- > MOVING YOUR BODY IN THE WAYS IT WAS INTENDED TO MOVE: SQUATS, PRESSES, PULLS, PUSHES.
- > FOCUSING ON CORE STRENGTH AND STABILITY.
- > WORKING “BIG” MOVEMENTS AS OPPOSED TO ISOLATED ONES.

All of these things are accurate, but when it comes to the pure definition of “functional fitness,” there is seemingly not one universal definition that sticks out aside from exercise that’s, well, *functional*.

Ultimately, I would argue, **FUNCTIONAL FITNESS IS BEING IN A PHYSICAL CONDITION THAT ENABLES YOU TO DO LIFE’S ACTIVITIES.**

From carrying your groceries, to lifting your suitcase into the airplane’s overhead bin, to keeping up with your grandkids or moving boxes into your new apartment—functional fitness, *done right*, will make you strong enough to conquer the wear and tear of life and do all the things you want to do.

Functional fitness, *done wrong*, however, will have the opposite effect: body breakdown. Walk into any gym, boot camp or one-on-one personal training session nowadays, and you’ll see that unfortunately, functional fitness is doing our bodies more harm than good.

For instance, in a recent study published in the *Journal of Strength and Conditioning Research*, researchers found that 97 out of 132 CrossFit (“functional fitness”) athletes “had sustained an injury that had prevented them from working, training or competing.” Nine of these injuries required surgery.

This isn’t news. For several years now, CrossFit has sustained a bad rap because of its perceived propensity for causing injuries. And while this article is not a case against CrossFit, these statistics are just one shining example of “functional fitness” and movement gone wrong.

In actuality, these statistics amount to an injury



if you train frequently, chances are that you have goals to improve

rate of 3.1 per 1,000 hours—similar to sports such as Olympic weightlifting, powerlifting and gymnastics, but lower than contact sports like rugby.

That said, it’s crucial to explore the reasons why injury happens when we are supposedly moving “functionally”—be it via CrossFit, boot camps, weightlifting, bodybuilding, “primal movement” and so on—in order to prevent injuries in the first place.

Additionally, injuries aside, if you train frequently,





chances are that you have goals to improve. However, what happens if you, or your clients, are not improving—if you hit a plateau—something that is quite common in training? How can you prevent plateaus from happening?

The answer to both of these things? Proper progression.

Coach James FitzGerald, founder of OPEX, a fitness business specializing in coaches' education and exclusive coaching for individuals, preaches this on a daily basis.

"IT'S SIMPLE: WHEN PEOPLE ARE TAUGHT OR ALLOWED TO UTILIZE IMPROPER MOVEMENT PATTERNS IN ORDER TO 'PUSH' TOWARDS PROGRESS, THEY WILL EVENTUALLY STALL—LEADING TO PLATEAUS AND INJURIES," FITZGERALD SAYS.

think about it -

- > The high school football linebacker who keeps piling the weight on his barbell to muscle clean 250 pounds with horrific form, at the risk of back injury.
- > The boot camp enthusiast whose workout form (consisting of 150 body-weight squats) ends up looking more like small curtsies—targeting only her hip flexors, rather than butt and thighs.
- > The prescribed 105-pound workout weight that the 112-pound individual tries to hoist overhead to complete as many rounds as possible of 10 push-presses, 15 pull-ups and 20 box jumps in 12 minutes.
- > The coach that continues to cue "Squat lower!" or "Drive through your heels!" or "Higher elbows!" when the client's tight Achilles heels or triceps are limiting proper execution.
- > Teaching an individual how to perform an Olympic snatch when he can't even hold his chin over the pull-up bar for 10 seconds.



“

Whether it be the sweeping eagle in his flight, or the open apple-blossom, the toiling work-horse, the blithe swan, the branching oak, the winding stream at its base, the drifting clouds, over all the coursing sun, form ever follows function, and this is the law.

—LOUIS SULLIVAN, *THE TALL OFFICE BUILDING ARTISTICALLY CONSIDERED*

As FitzGerald goes on to say, “We need to be conscious coaches... for the majority of people (who just want to live long and prosper), they need to first be efficient in the body-weight movements: squats, pull-ups, push-ups here and there. Unfortunately, we’ve created a ‘fast fix’ to fitness—and what we think it should be—and gotten away from fitness that’s connected to living long for 60-plus years healthfully. We need to go back to building a base.”

As the winner of the first-ever CrossFit Games back in 2007, FitzGerald knows all too well what it takes to be an elite athlete—and push his own body to the limits to achieve new PRs and accomplish new feats. Likewise, **HE’S ALSO LEARNED WHAT WORKS AND WHAT DOESN’T WORK FOR SEEING CONTINUAL PROGRESSION, AND PREVENTING PLATEAUS AND INJURIES IN FUNCTIONAL TRAINING—THAT IS, FIRST AND FOREMOST, USING HIMSELF AS THE EXPERIMENT.**

This, coupled with his 20-plus years of coaching experience—during which he’s witnessed the breakdown of the human body, as hundreds of trainees have come to him with poor core stability, weak hip flexors, immobility or lack of proper muscle engagement—inspired him to develop a system for rediscovering the essence of functional fitness: helping people “move better.”

Today, FitzGerald travels the globe, teaching coaches how to be better by implementing his no-fail process for improving (and curing) our movement crisis. FitzGerald also taps into the power of progressive movement and individually designed programs to establish a base for his clients—and accelerate them to achieving their goals, be they squatting 400 pounds, chiseling a six-pack, prepping for a backpacking excursion or beating the grandson in a game of one-on-one basketball.



Before accelerating a client to squatting with a weighted barbell on their back, deadlifting a weight from the floor, snatching a weight overhead or even pulling themselves up over the bar, FitzGerald mandates that every individual pass through the proper progressions with efficiency. And these progressions are not just a checklist of items performed in an “onramp” or one-time assessment session—for instance, seeing if the client can sort of squat without their heels coming off the ground, or checking off a list to see if a client simply knows



what a clean and jerk is. Coach FitzGerald is adamant about ensuring movement quality, as well as practicing through countless repetitions and training sessions, to build a strong foundation of body-weight movements, core strength, aerobic capacity and correct alignment—before even thinking about pushing an individual to perform a movement with less-than-near-perfect form.

“Unfortunately, it’s as if we’ve had a veil over our eyes all these years—believing that (shitty) movement, ‘just okay’ form, or aches and pains are just a part of what movement looks like in order to get a workout in. Many believe their bodies are broken, and consequently, have accepted bad movement as their norm, a part of the aging process or something they just have to deal with, and that’s just not the case,” FitzGerald says.

“It’s amazing what happens when a client realizes what movement *should* be for themselves—i.e., pain free, full range of motion, less compensation from other body parts/muscle groups,” he says.

Coach FitzGerald’s advice for coaches and helping clients realize what quality movement looks like, for any body type?

“We must recognize there is a full continuum of people, some of whom just can’t move in relation to what movement should be. For instance: the squat. It is a ‘standard’ that all squats *should* be below parallel, and if a person is unable to currently do that, coaches often don’t know how to vary it, in order to build up their abilities to do that. Instead, they continue to cue them to ‘squat all the way down’—and unfortunately, it’s just never going to happen (or it’s going to be pretty ugly). Therefore, as a coach, you must be aware of variations for all sorts of movements to improve movement and go about it a different way,” he says.

“As coaches, we have to ask: *Why* are people doing exercise in the first place?”

FitzGerald adds, “By understanding a person’s ‘why’—i.e., are they training to compete, or to live long and prosper, stay healthy, gain strength, etc.?—as a coach, I am then able to investigate all of the training and movements needed. **FAR TOO OFTEN, COACHES GET CAUGHT UP IN WRITING THE PERFECT PRESCRIPTIONS OR PROGRESSIONS... THAT THEY FORGET TO EVEN ASK THE CLIENTS ABOUT THEIR OWN GOALS.**”

HOW TO PROGRESS CLIENTS

breaking down the squat

HERE IS WHAT, IN FITZGERALD’S OWN WORDS, PUTTING HIS PRINCIPLES INTO PRACTICE LOOKS LIKE



FIRST: If someone cannot squat, in most cases we want to ask the question of where they might need to squat, and why?

Is it more functional for them to:

- A.** Squat to do things, or maybe
- B.** Take a knee and lunge-pattern movement to do the same thing instead, or maybe
- C.** Bend over at the hip and hinge, and do the same pattern, maybe better?

THESE QUESTIONS MUST BE ASKED BEFORE WE ASSUME WE HAVE TO FIT THEM INTO A “SQUAT” PATTERN.



next, the argument for squatting has always been:

1

WE
DID IT
YEARS
AGO.

2

YOU HAVE
TO GET
UP FROM
THE TOILET.

3

TO GET
THINGS
OFF THE
GROUND.

LASTLY, NUMBER 3: If you look at cultures in which there is a lot of “ground work” done—those in fields, or working around lower levels all day—they actually bend a *lot*. This bending is done with a proper hinge at the low back and hip area with a secure lower lumbar spine curve the entire time; being in this position with endurance actually enhances postural endurance more so than the squatting pattern would.

When you see someone deadlift something off the ground, using your knees and quads actually does not happen that often, and biomechanically, our damn knees get in the way. The way to avoid this “off the ground” pattern is bending and securing the low back through breath (which happens naturally to functional folks and needs to be trained for dysfunctional folks) and lifting.

AND NUMBER 2: In most cases, actually, those who choose to, “can” get up from a chair without help, but there is *lots* of help to go around for getting up from a seated position today. There are numerous attachments (inside bathrooms, on armchairs, desks, etc.) that people can push off on with their upper body to gain leverage to stand up. Sitting down is pretty easy; getting up is also easy today. So although the squat pattern is involved in this movement, it is only involved in assisted patterns, *not* by people alone. Believe me, this does *not* go against my views on people being self-reliant in movement—I am just saying it’s a poor argument.

LET’S LOOK AT NUMBER 1: It’s 2015. Things have changed, as have humans and the landscape. Do we look the same now? No! Therefore the reasoning behind “years ago” does not necessarily hold true for the prescription, so it’s a little weak. (We also have porcelain toilets, toothbrushes, sliced bread and soft beds now!)



So how do you teach a person to squat, then?

OPEX teaches coaches to first view the bending of the hips and knees in unison and a partial squat “top down” *before* we look at depth, lumbar curve, torso alignment, knee tracking, etc., in the full-depth squat.

We teach that the movement around the ankle, knee, hip and thorax has to be coordinated to ensure proper long-term patterning of the movement. Instructing a client to only “sit back,” or only to bend at the knees, or only to keep shins at a certain angle might be disadvantageous to a client over time.

Here’s the process you can use for proper progressions with the squat:

step 1: Ask them to lower their body to the floor and see how they respond; we feel that looking at hip and knee coordination is the best move first.

step 2: The next cue would be to ask the client to sit down, keeping weight flat on their feet to the lowest depth they can, under control, before they feel they need to return to the standing position. This is an initial way (with help, if needed) to assess how the person can squat for depth on the movement. Look at if their knees are aligning over toes, and if their torso angle is in alignment with their shins. Also evaluate the depth of the squat by looking at the upper thigh in relation to the knee and the hip.

note: For those who have hardly any range of motion for the initial lowering squat, assistance in the pattern (from hand-holding, to holding a band, pole or solid object), sitting into the movement and then standing up can all train the neural pathway needed for the squat. It’s just that, one, it was not learned; two, it was not practiced; or three, they did not know they could do it. In this case, as well, the squat can take place in non-fatigue settings in practice as they wish, where rep and set patterns do not matter too much, as the learning of the movement is key.

In addition, something that may happen when a person is learning a squat pattern is misalignment (favoring either the right or left side). This is



particularly true for newbies, where misalignment is often seen at the knees and hips. If noted, coaches should investigate the *why* behind the right-to-left balance with some single-leg tests; from there, coaches can take care of that with single-leg work to help improve the squat pattern over time.

Get it? Got it? Good.

Progressive exercise for helping clients attain true functional movement goes far beyond verbal cues or even simple visual demonstrations to “squat lower” or “pull higher.” It all starts with meeting a client right where they’re at—and helping them get to where they want to be with proper (smart) progressive movements.

To find out more about James FitzGerald’s coaching certificate program, or about working with an OPEX coach for your own progressive training, visit OpexFit.com.

REFERENCES



12 oz coconut water
1 cup chopped carrots
1 scoop grass-fed protein powder (vanilla)
1 tsp pure vanilla extract
1/2 tsp cinnamon
1/4 tsp nutmeg
1/4 tsp ginger
Pinch of cloves
Pinch of sea salt
2 pitted dates or small handful raisins (optional)

First, roast the carrots: Scrub and trim 6 medium carrots, and chop roughly. Toss in a scant tablespoon of coconut oil and roast for 25 minutes at 425°F, until fork-tender and browned. Let cool completely before adding to the shake. Additionally, if you're short on time and have a powerful, high-quality blender, you can skip the roasting step and use raw carrots, although the end result will be slightly different.

In a high-powered blender, combine the coconut water, cooled roasted carrots, protein powder, vanilla extract, spices, salt and optional dates/raisins. Blend on high until smooth. Serve immediately or keep chilled until ready to drink.



Carrot Cake Recovery SHAKE

Deviled Eggs

with Crispy Capers

- 6 eggs, hard-boiled
- 1 TBSP mayonnaise (homemade, Paleo Kitchens or Payo brand)
- 1 TBSP Dijon mustard
- 2 tsp olive oil, plus extra for frying
- Pinch of salt
- Pinch of black pepper
- 1/4 cup capers

For foolproof hard-boiled eggs, try our favorite method: Fill a saucepan with about an inch of water, and fit a steamer basket in the bottom of the pan. Turn the water on to boil—when the steam is rising, arrange 6 raw eggs in the bottom of the steamer basket. Cover and simmer for 12 minutes. When the time is up, let the pot rest off the heat for 5 minutes before immersing the hard-boiled eggs in an ice bath. From there, the eggs will chill quickly and will be easy to shell.

After shelling, gently run a paring knife lengthwise around the entire circumference of the egg to split the whites evenly in half while leaving the yolk intact. Separate the halved whites and the yolk.

In a small bowl, mash the yolks, mayonnaise, mustard, olive oil, salt and pepper together until the mixture resembles a strong paste. Transfer the filling to a piping bag and fill the inner “cup” of the half hard-boiled egg. Arrange on a plate and set aside.

Heat a small skillet over high heat with a generous splash of olive oil. While the pan is heating, drain the capers and pat them dry with a towel before frying them until crisp. Sprinkle liberally over the deviled eggs and serve immediately.

LAMB MEATBALLS

with Pistachio-Mint Pistou

Meatballs



1 lb	ground lamb
1 tsp	fine-grain sea salt
A few grinds	of fresh black pepper
1/2 tsp	garlic powder
1/4 cup	almond meal
1	egg

Pistou

2 cups	fresh mint, packed
1/2 cup	roasted, unsalted, shelled pistachios
1/4 cup	olive oil
1/2 tsp	fine-grain sea salt
1	garlic clove, peeled
Juice	of 1 lemon

To make the meatballs:

In a large bowl, mix all of the ingredients together with your hands. Use a spoon or a spring-loaded scoop to form small meatballs, with about 2 tablespoons of ground meat per meatball.

Heat 1 teaspoon of olive oil in a skillet over medium-high heat. In small batches, sear the meatballs until they're golden brown all around the exterior. Add a bit more olive oil to the pan between batches as necessary.

Remove the browned meatballs to a rack on a baking pan and cook in the oven at 300°F for 30 minutes, or until the meatballs are cooked through and the internal temperature reads 165°F.

(Bonus recipe: While the meatballs are baking, deglaze the hot skillet in which the meatballs were browned with a cup of red wine or homemade broth, scraping the bottom of the pan with a wooden utensil to release all of the browned bits—the “fond”—and reduce the liquid. While the sauce is reducing, whisk in 1 tablespoon of grass-fed butter or ghee. Serve the meatballs over the sauce, with a spoonful of pistou as a garnish.)

To make the pistou:

Blend all of the ingredients together in a food processor or a high-speed blender until a paste forms. Drizzle over the meatballs and serve immediately.

Yields
2
dozen
meatballs

+

1/2 cup
of pistou

Savory Twice-Baked Sweet Potatoes

- 2 small orange sweet potatoes
- 2 TBSP coconut milk
- 1 egg, beaten
- 1/2 tsp fine-grain sea salt
- 1/2 tsp garlic powder
- 1/4 tsp smoked paprika
- Cayenne pepper (optional, to taste)

Preheat the oven to 400°F. Wash the sweet potatoes and prick the skins with a knife a few times before nestling in an oven-safe baking dish. Roast the whole sweet potatoes for about 60 minutes, or until the flesh yields to the prongs of a fork.

Let the sweet potatoes cool completely or, better yet, let them chill overnight. Gently cut the cooked, cooled sweet potatoes in half and scoop out the cool flesh, leaving the skin intact. In a mixing bowl, mash the sweet potato flesh with the coconut milk, egg, sea salt, garlic powder, smoked paprika and cayenne pepper to taste. (Note: For a smooth, fluffy texture, whip the ingredients together in a stand mixer or food processor until airy.)

Spoon or pipe the sweet potato filling back into the sweet potato skins. Return to a 400°F oven to bake for approximately 20–25 minutes, or until the potatoes are heated through and the top of the filling is browned. Serve immediately.

YIELDS 4
SERVINGS



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